Chapter 16 Figures

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 3100 [a]

Core Type

Continuous

- ○ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ▲ (small) > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ (large) > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE) Mass Per Unit Area - Mile 1 to 2

Lower Passaic River Restoration Project

Figure 16 - 1a
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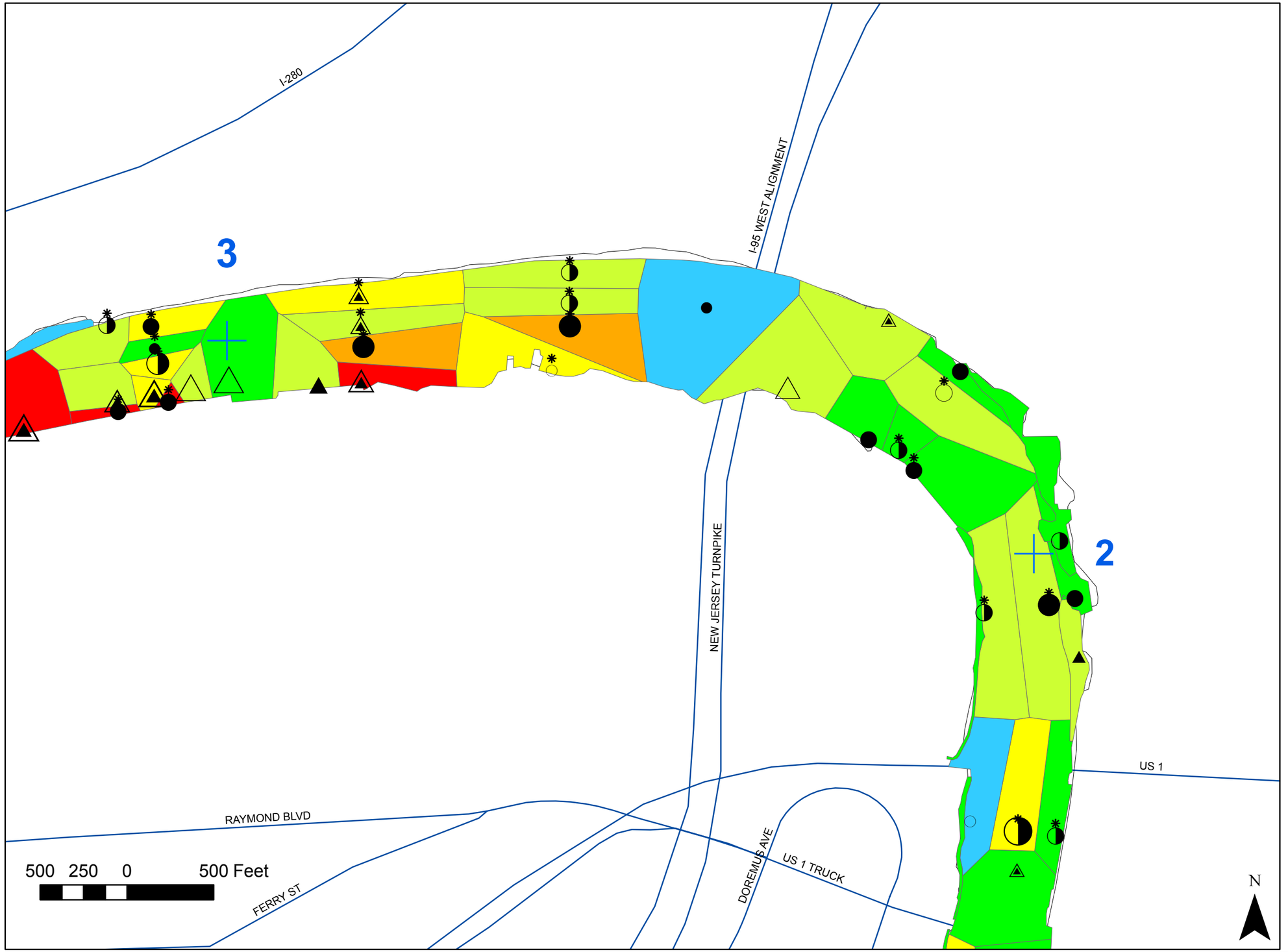

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.011 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.001 - 3.160
- 3.2 - 10
- 10 - 3100[a]

Core Type

Continuous

- ○ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ◬ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE) Mass Per Unit Area - Mile 2 to 3

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Figure 16-1b
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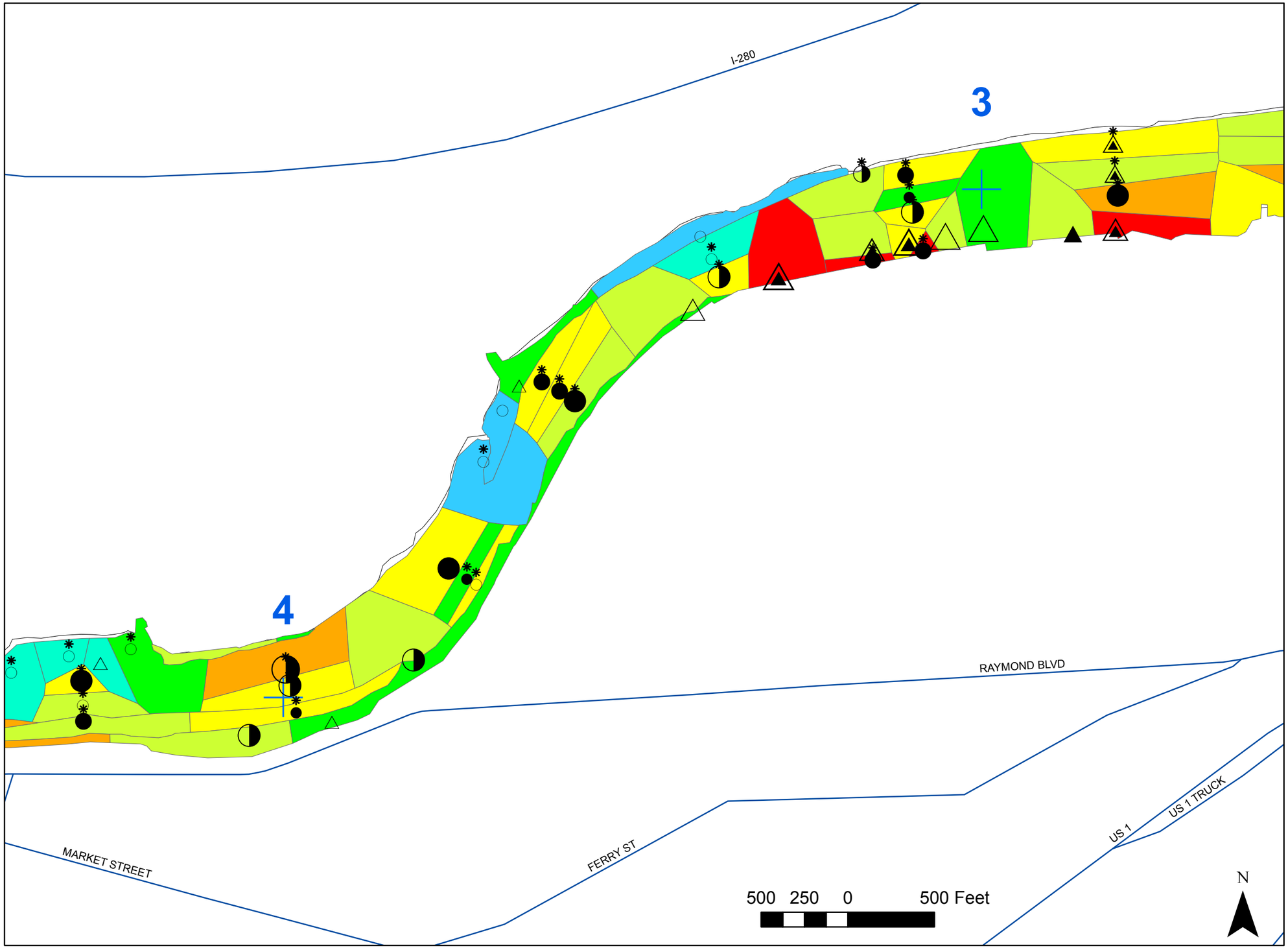

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.011 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.001 - 3.160
- 3.2 - 10
- 10 - 3100[a]

Core Type

Continuous

- ○ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ◬ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- △ ○ 0 - 5
- △ ○ 5 - 10
- △ ○ 10 - 15
- △ ○ 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE) Mass Per Unit Area - Mile 3 to 4

Lower Passaic River Restoration Project

Figure 16-1c
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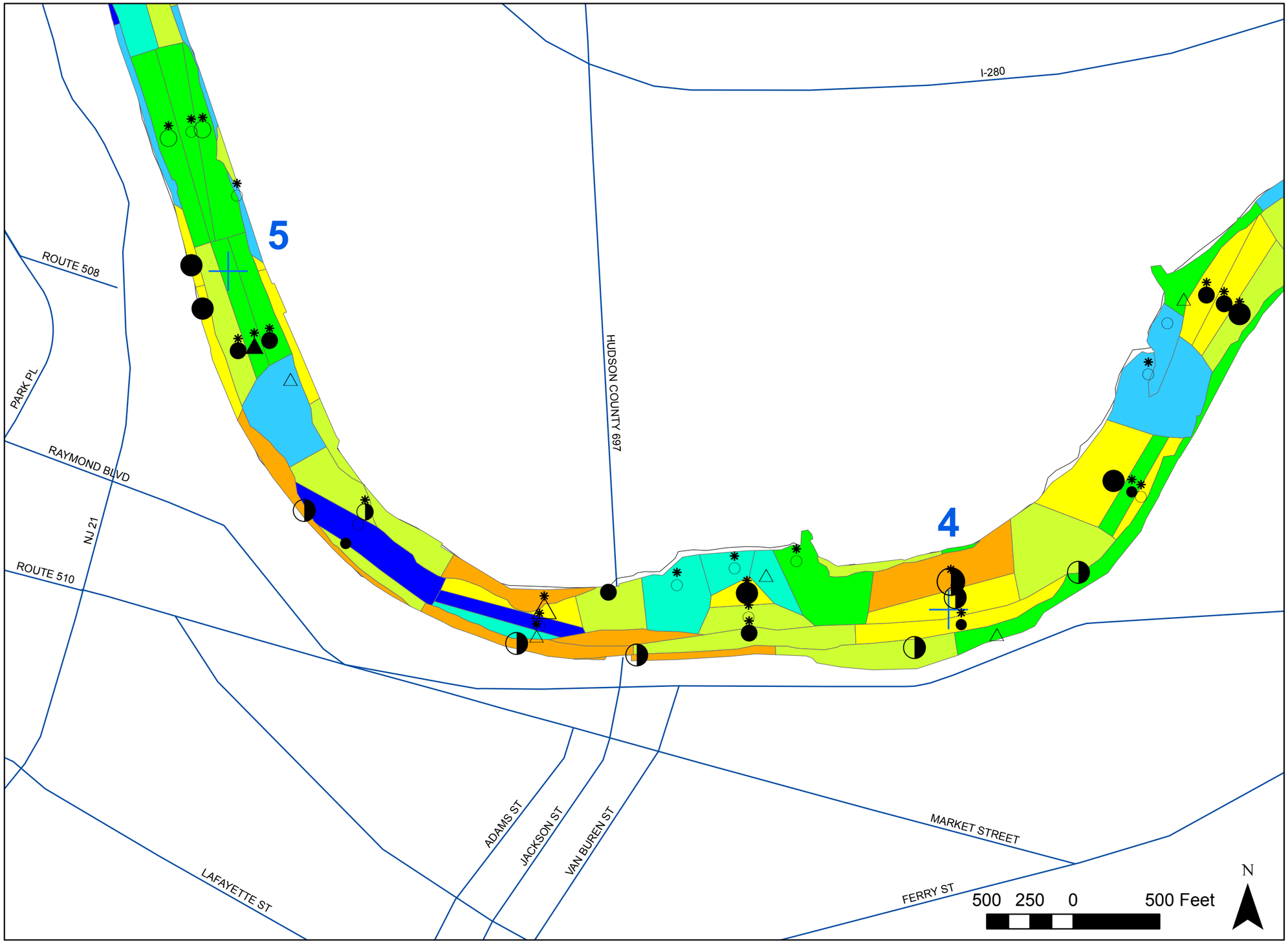

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.011 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.001 - 3.160
- 3.2 - 10
- 10 - 3100[a]

Core Type

Continuous

- ○ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ◬ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- △ ○ 0 - 5
- △ ○ 5 - 10
- △ ○ 10 - 15
- △ ○ 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE) Mass Per Unit Area - Mile 4 to 5

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Figure 16-1d
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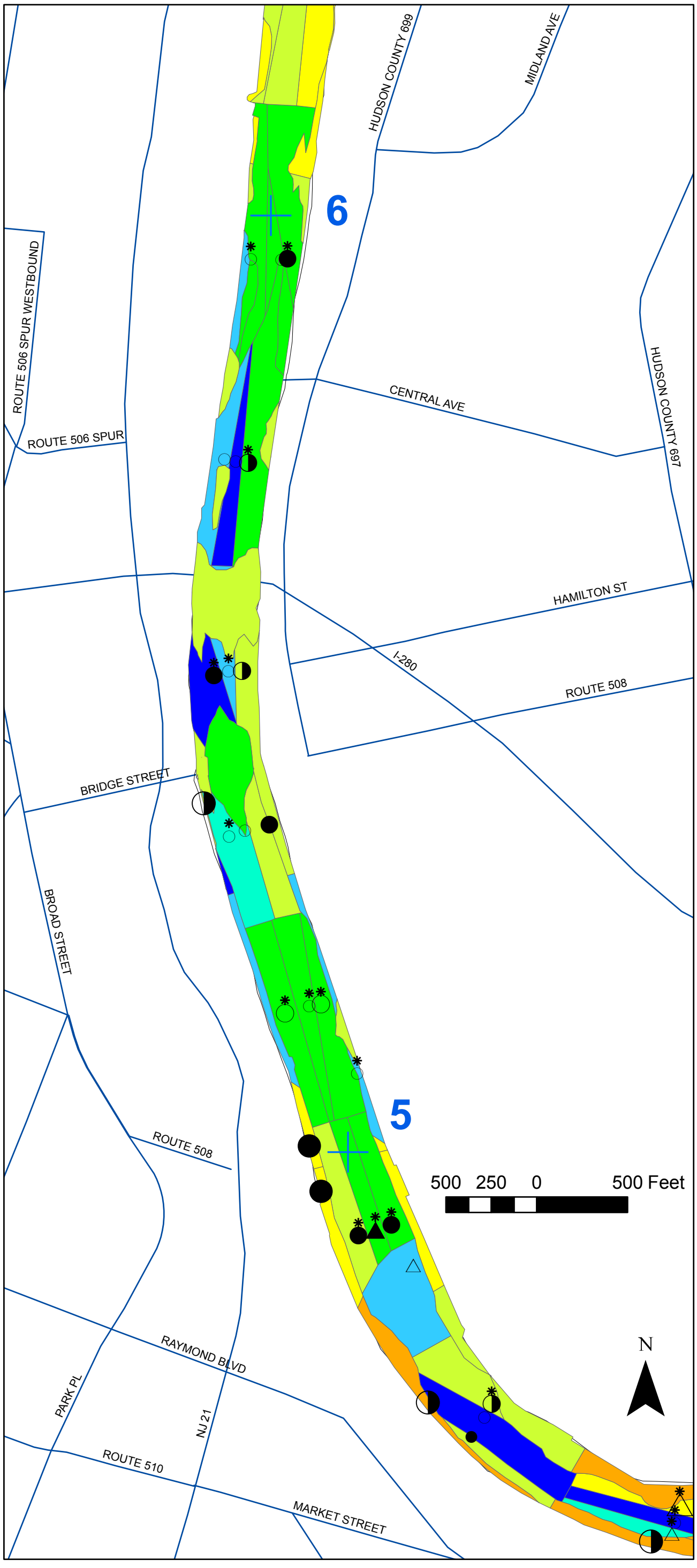

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 3100 [a]

Core Type

Continuous

- ◯ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ◭ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

\+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE)
Mass Per Unit Area - Mile 5 to 6

Lower Passaic River Restoration Project

Figure 16-1e
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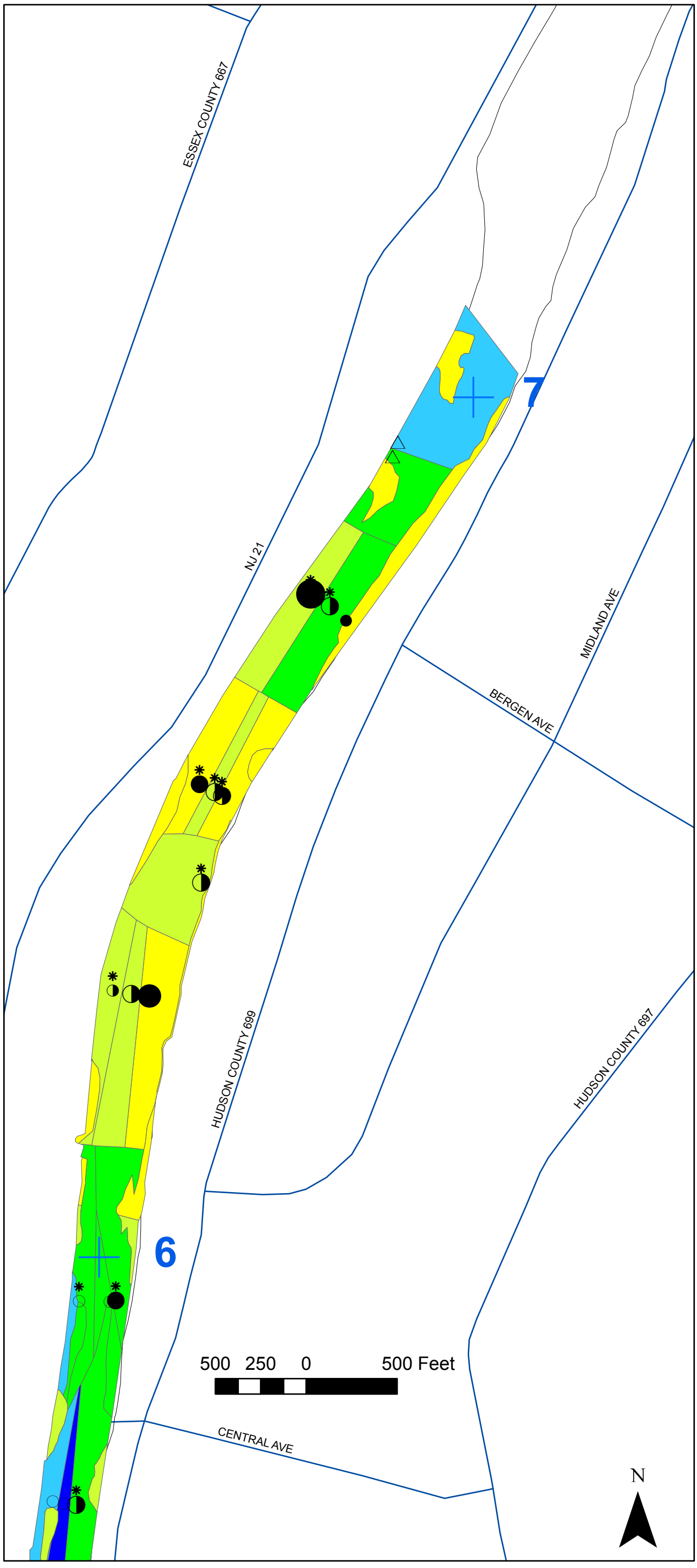

Legend

Mass Per Unit Area (g/m^2)

- <0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 3100 [a]

Core Type

Continuous

- ○ ≤ 10 ng/g at core bottom
- ◑ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ ≤ 10 ng/g at core bottom
- ◭ > 10 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ > 10 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 4 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

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Total DDT (Sum of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE) Mass Per Unit Area - Mile 6 to 7

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Figure 16-1f
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Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- ○ < 2 pg/g at core bottom
- ◑ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 2 pg/g at core bottom
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:

There is no rejected measurement present for 2,3,7,8-TCDD.

[a] MPA scale was combined since only 9 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

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2,3,7,8-TCDD Mass Per Unit Area - Mile 1 to 2

Lower Passaic River Restoration Project

Figure 16-2a
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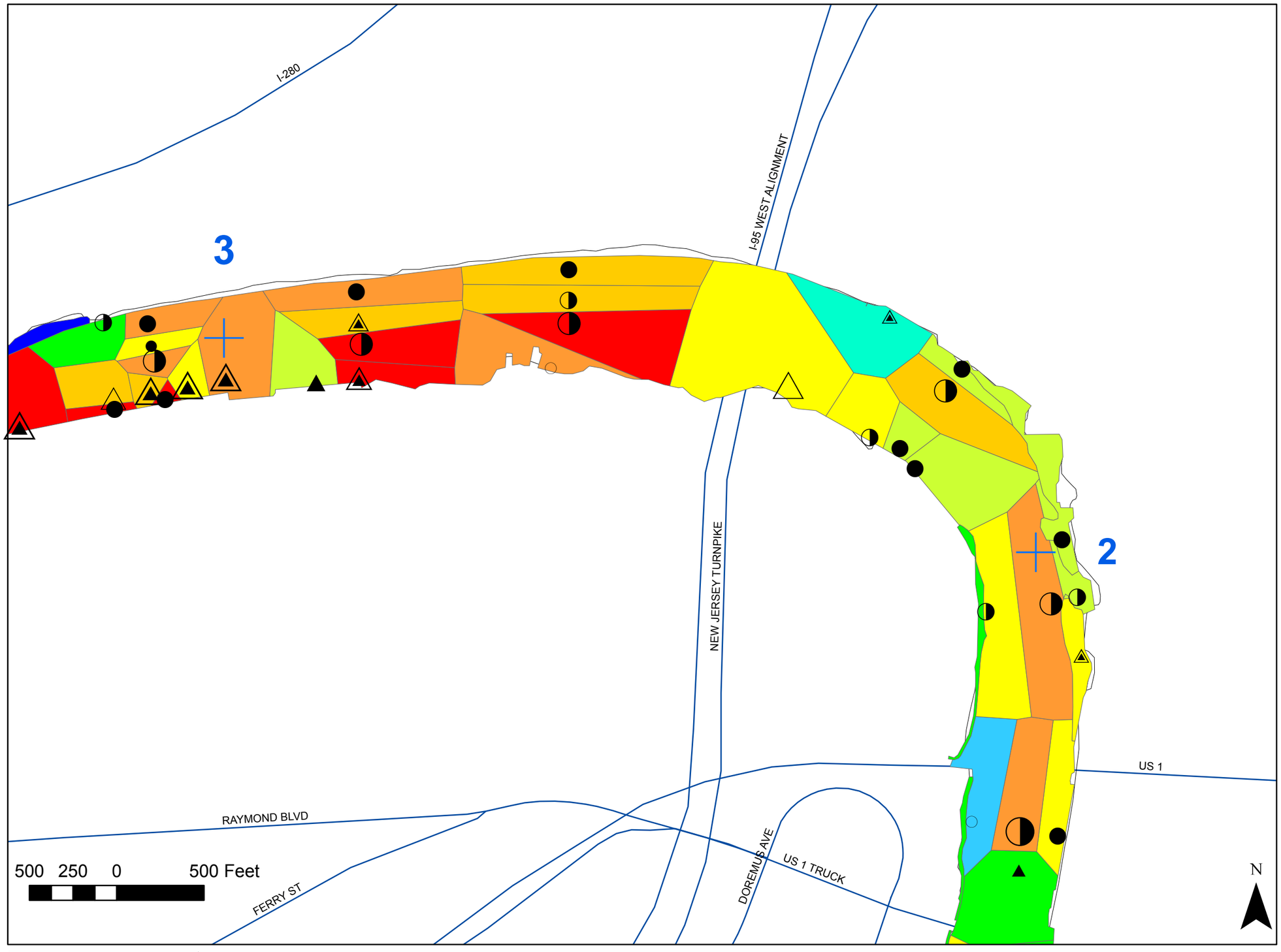

Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- ○ < 2 pg/g at core bottom
- ◑ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 2 pg/g at core bottom
- ◬ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:

There is no rejected measurement present for 2,3,7,8-TCDD.

[a] MPA scale was combined since only 9 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

2,3,7,8-TCDD Mass Per Unit Area - Mile 2 to 3

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Figure 16-2b
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Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- ○ < 2 pg/g at core bottom
- ◑ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 2 pg/g at core bottom
- ◭ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:

There is no rejected measurement present for 2,3,7,8-TCDD.

[a] MPA scale was combined since only 9 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

2,3,7,8-TCDD Mass Per Unit Area - Mile 3 to 4

Lower Passaic River Restoration Project

Figure 16-2c
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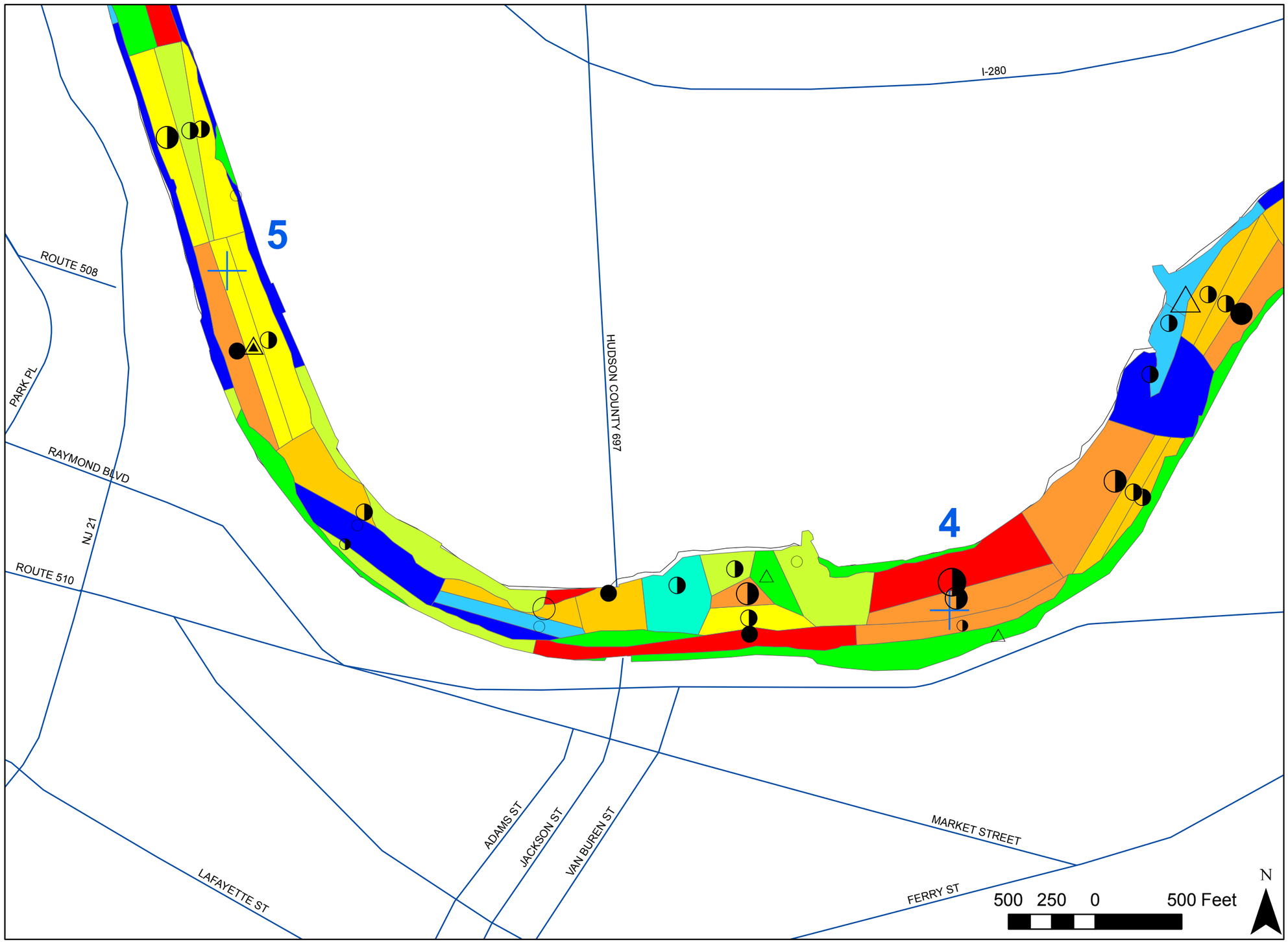

Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- < 2 pg/g at core bottom
- ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- < 2 pg/g at core bottom
- ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:
There is no rejected measurement present for 2,3,7,8-TCDD.
[a] MPA scale was combined since only 9 data present in this range.
[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

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2,3,7,8-TCDD Mass Per Unit Area - Mile 4 to 5

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Figure 16-2d
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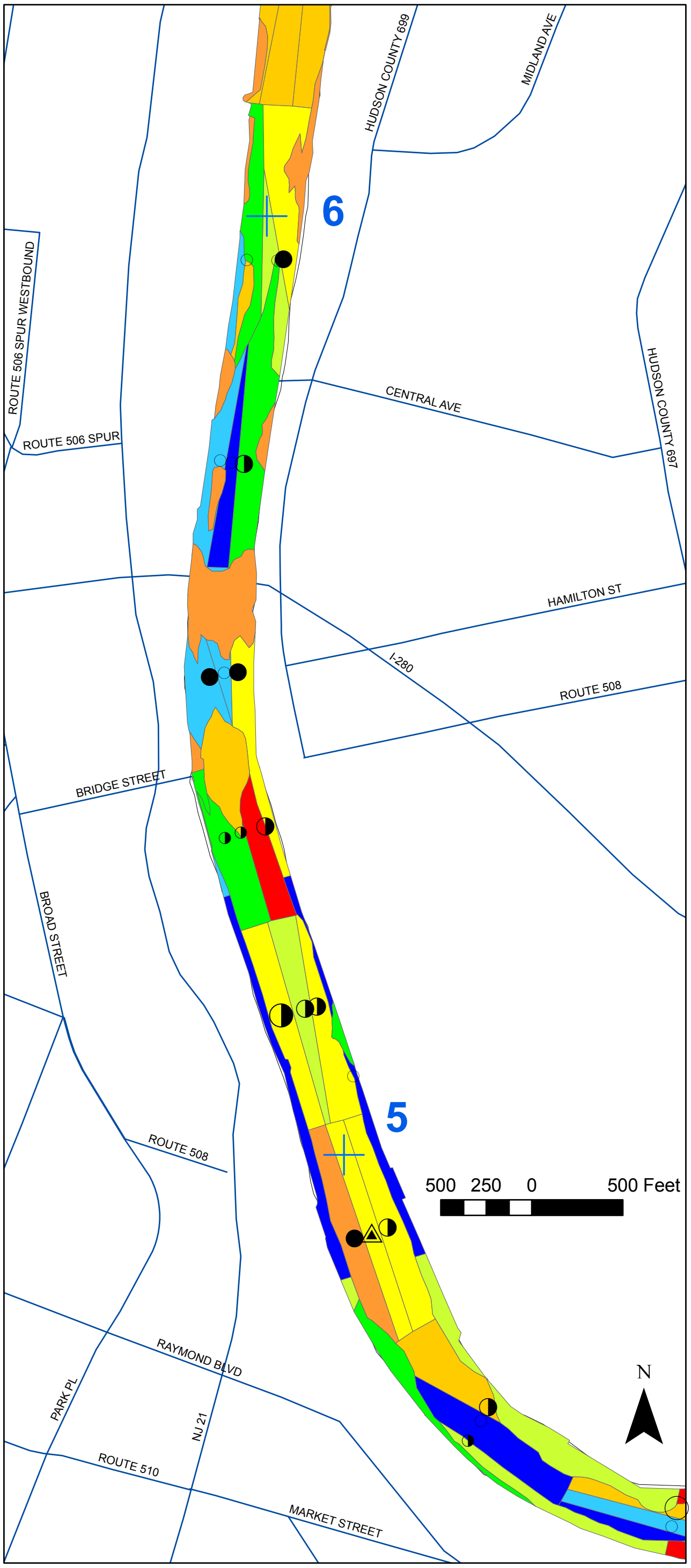

Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- ○ < 2 pg/g at core bottom
- ◑ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 2 pg/g at core bottom
- ◬ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:

There is no rejected measurement present for 2,3,7,8-TCDD.

[a] MPA scale was combined since only 9 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

2,3,7,8-TCDD Mass Per Unit Area - Mile 5 to 6

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Figure 16-2e
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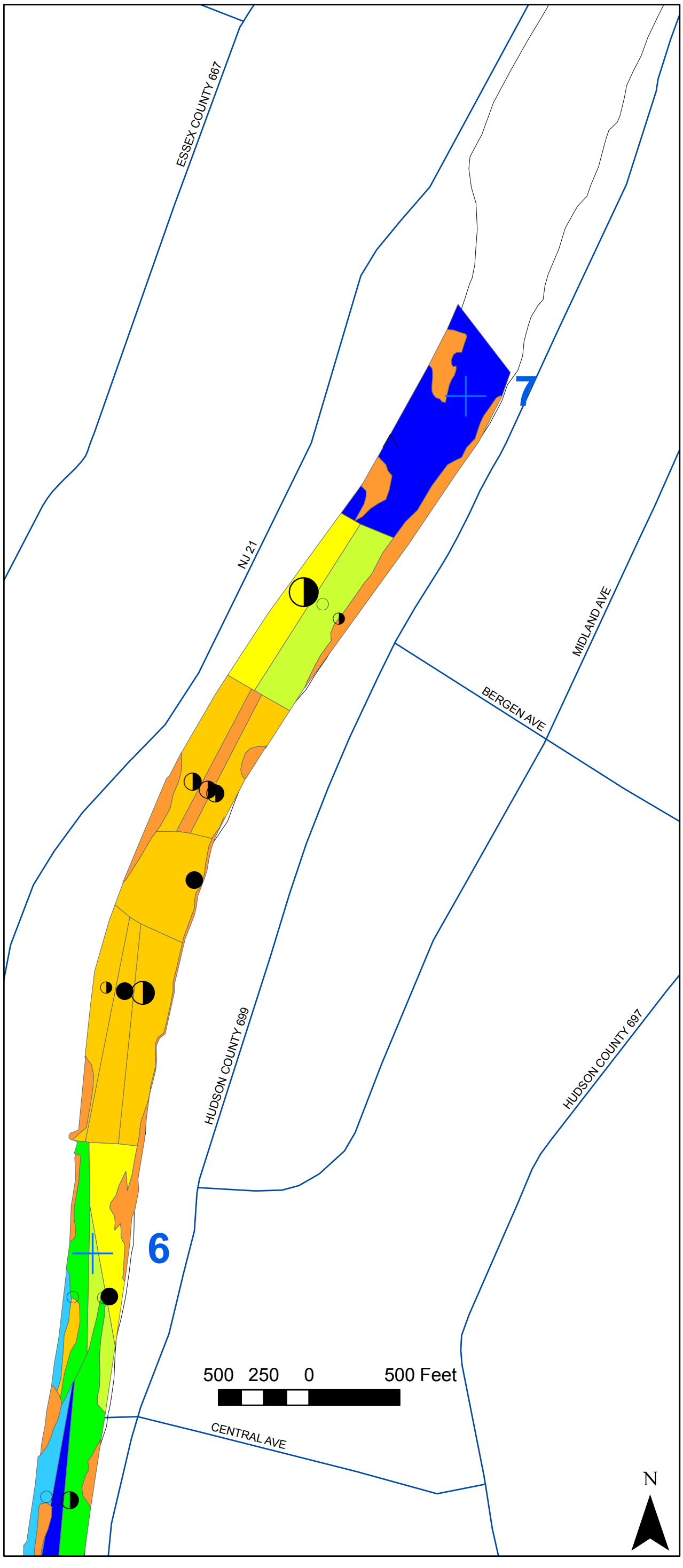

Legend

Mass Per Unit Area (mg/m^2)

- < 0.01
- 0.01 - 0.032
- 0.032 - 0.1
- 0.1 - 0.32
- 0.32 - 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 1300[a]

Core Type

Continuous

- ○ < 2 pg/g at core bottom
- ◑ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 2 pg/g at core bottom
- ◬ ≥ 2 pg/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 2 pg/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

River Mile Marker

+ 1

Notes:

There is no rejected measurement present for 2,3,7,8-TCDD.

[a] MPA scale was combined since only 9 data present in this range.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

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2,3,7,8-TCDD Mass Per Unit Area - Mile 6 to 7

Lower Passaic River Restoration Project

Figure 16-2f
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Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36[a]

Core Type

Continuous

- ◯ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 125 ng/g at core bottom
- ◭ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260
Mass Per Unit Area - Mile 1 to 2

Lower Passaic River Restoration Project

Figure 16-3a
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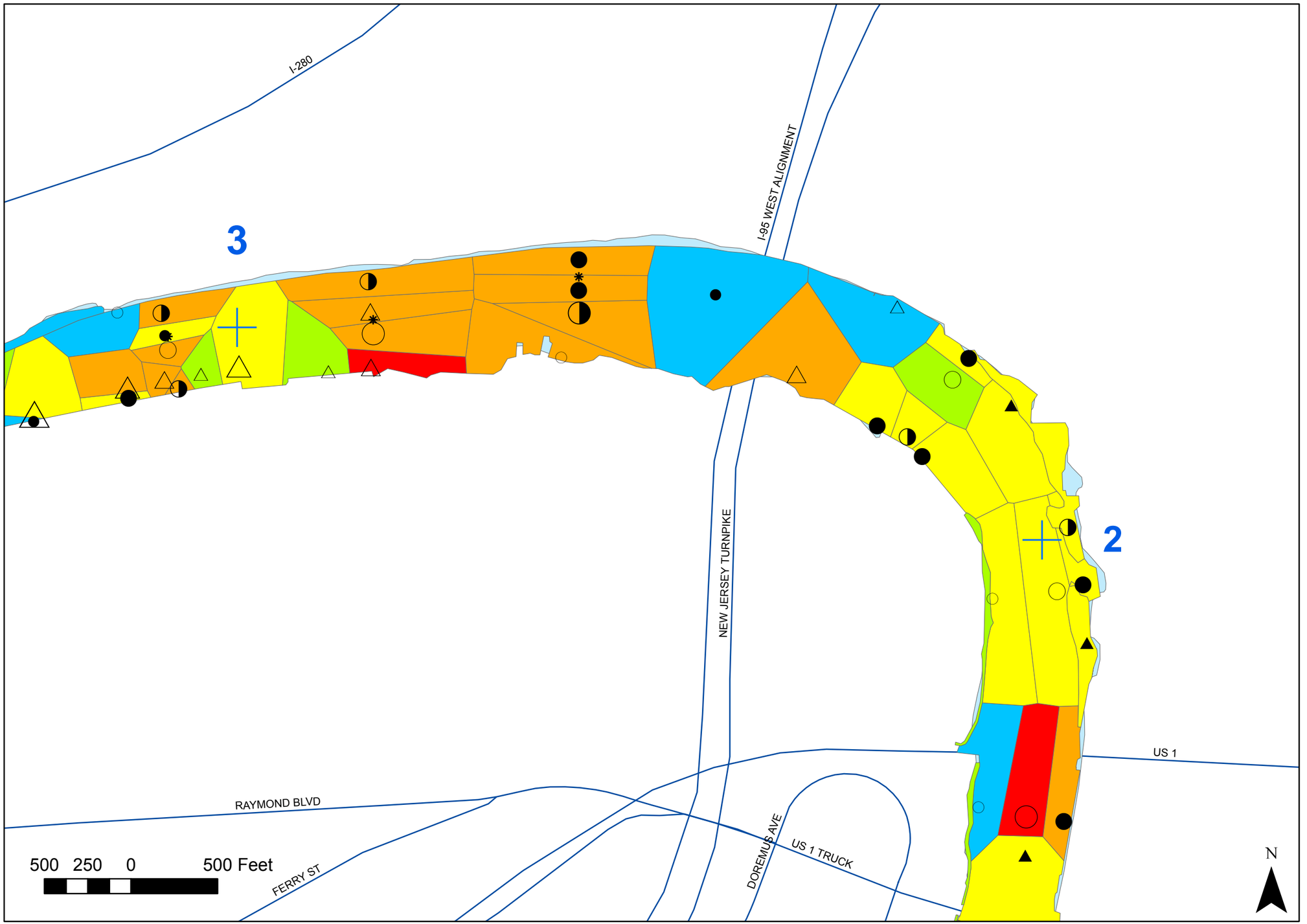

Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36

Core Type

Continuous

- ◯ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[1]

- △ < 125 ng/g at core bottom
- ◬ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- △ ○ 0 - 5
- △ ○ 5 - 10
- △ ○ 10 - 15
- △ ○ 15 - 20

Rejected Measurement(s) Present in Core

✱

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260 Mass Per Unit Area - Mile 2 to 3

Lower Passaic River Restoration Project

Figure 16-3b
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Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36

Core Type

Continuous

- ◯ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[1]

- △ < 125 ng/g at core bottom
- ◬ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- △ ○ 0 - 5
- △ ◯ 5 - 10
- △ ◯ 10 - 15
- △ ◯ 15 - 20

Rejected Measurement(s) Present in Core

✱

River Mile Marker

\+ 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260 Mass Per Unit Area - Mile 3 to 4

Lower Passaic River Restoration Project

Figure 16-3c

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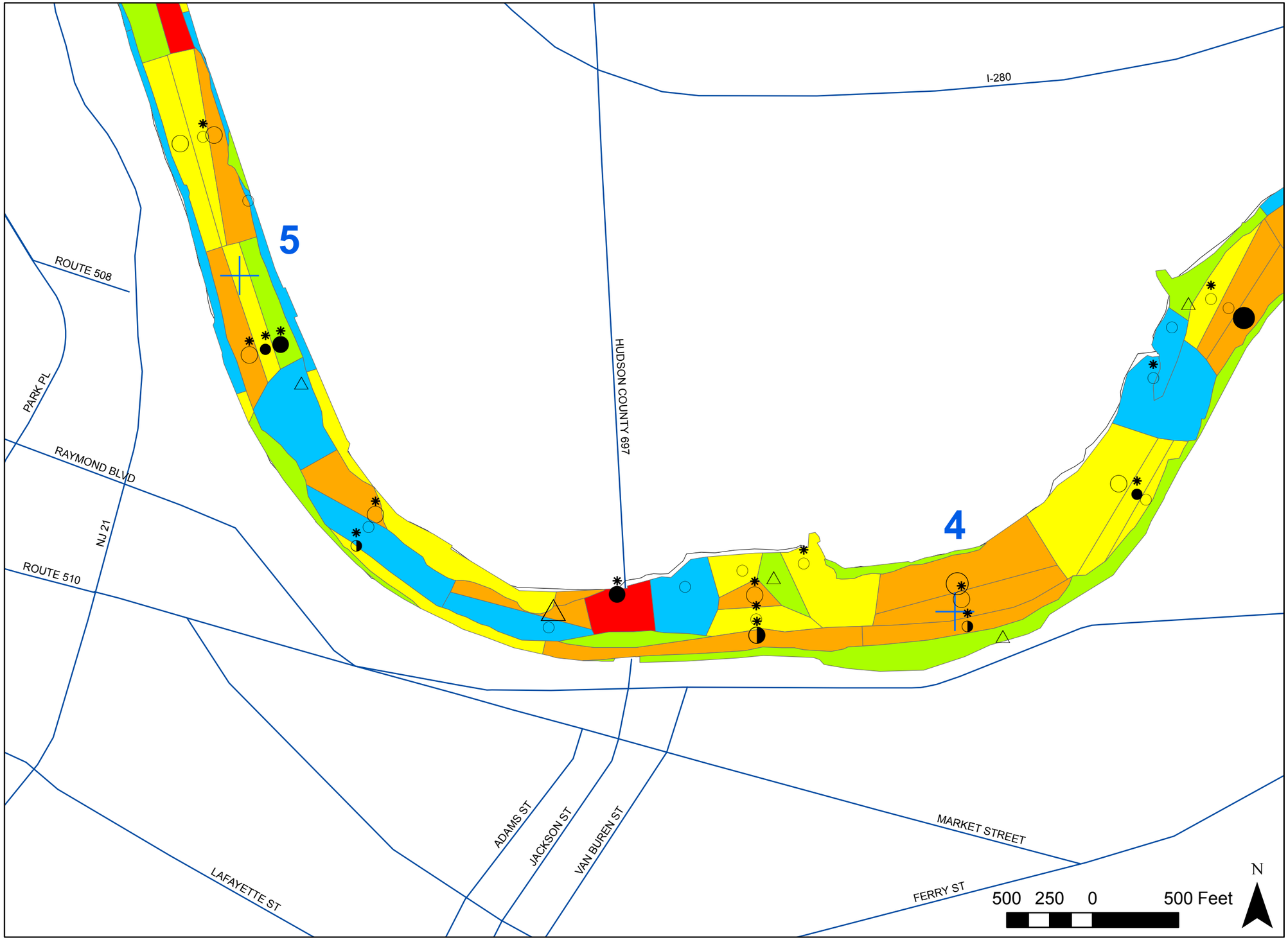

Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36

Core Type

Continuous

- ◯ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[1]

- △ < 125 ng/g at core bottom
- ◭ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (ft)

- △ ◯ 0 - 5
- △ ◯ 5 - 10
- △ ◯ 10 - 15
- △ ◯ 15 - 20

Rejected Measurement(s) Present in Core

✱

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260 Mass Per Unit Area - Mile 4 to 5

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Figure 16-3d
Page 4 of 6

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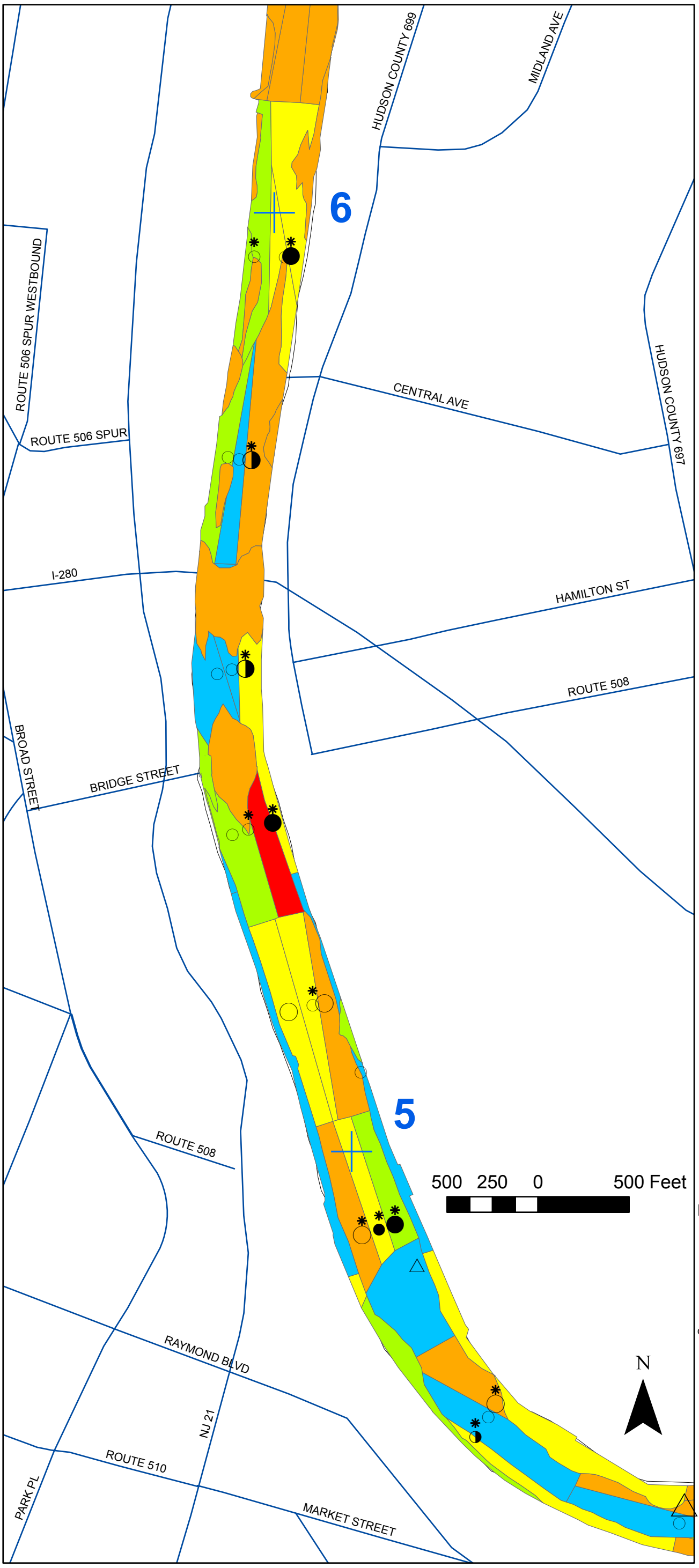

Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36[a]

Core Type

Continuous

- ○ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 125 ng/g at core bottom
- ◭ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260
Mass Per Unit Area - Mile 5 to 6

Lower Passaic River Restoration Project

Figure 16-3e
Page 5 of 6

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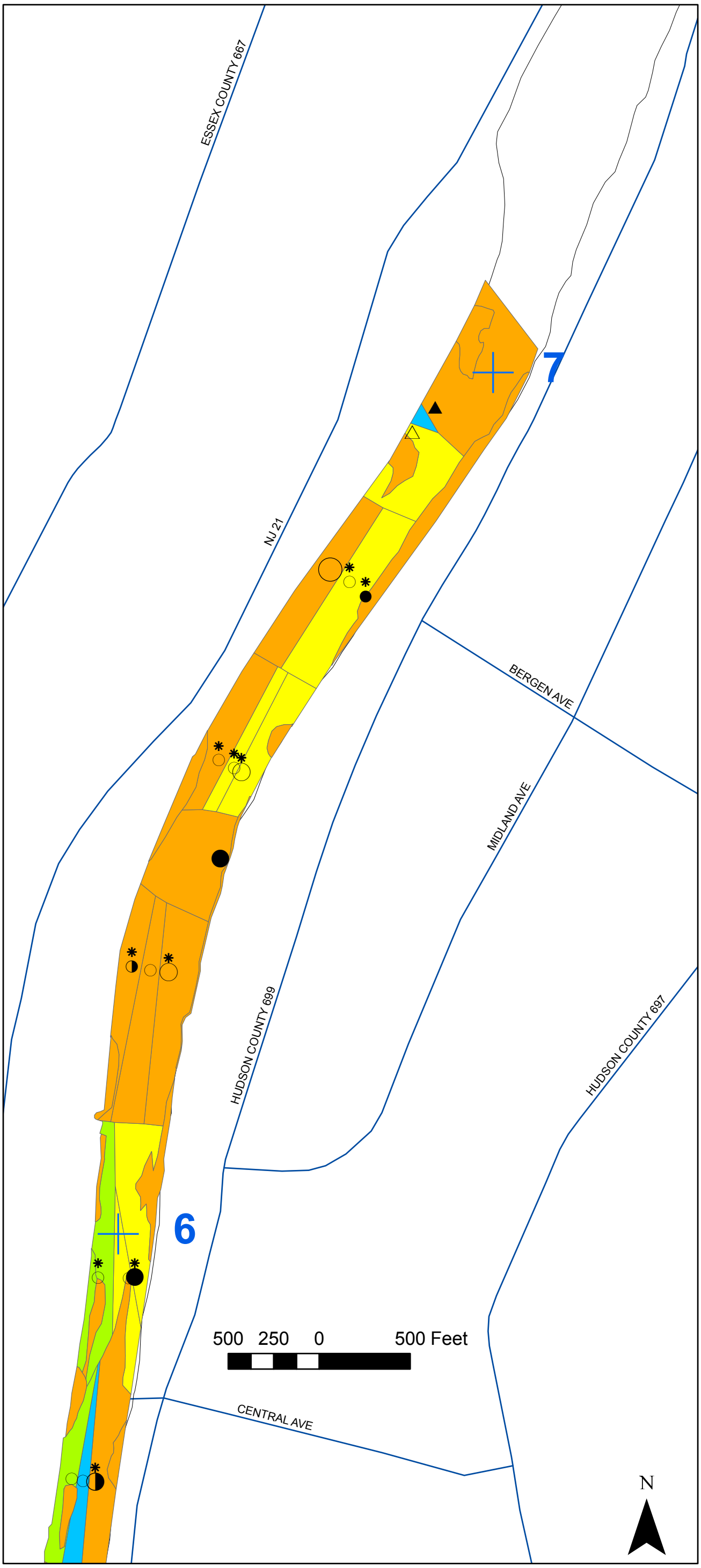

Legend

Mass Per Unit Area (g/m^2)

- < 0.32
- 0.32- 1.0
- 1.0 - 3.2
- 3.2 - 10
- 10 - 36[a]

Core Type

Continuous

- ◯ < 125 ng/g at core bottom
- ◑ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 125 ng/g at core bottom
- ◭ ≥ 125 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 125 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

- ✱

River Mile Marker

- 1

Notes:

[a] MPA scale was combined since only 1 data point is higher than 32 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected measurement present in one or more segments for one or more analytes. Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Sum of Aroclors 1248, 1254 and 1260
Mass Per Unit Area - Mile 6 to 7

Lower Passaic River Restoration Project

Figure 16-3f
Page 6 of 6

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Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- ○ < 200 ng/g at core bottom
- ◑ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 200 ng/g at core bottom
- ◬ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- △ ○ 0 - 5
- △ ○ 5 - 10
- △ ○ 10 - 15
- △ ○ 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

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Mercury Mass Per Unit Area - Mile 1 to 2

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Figure 16-4a
Page 1 of 6

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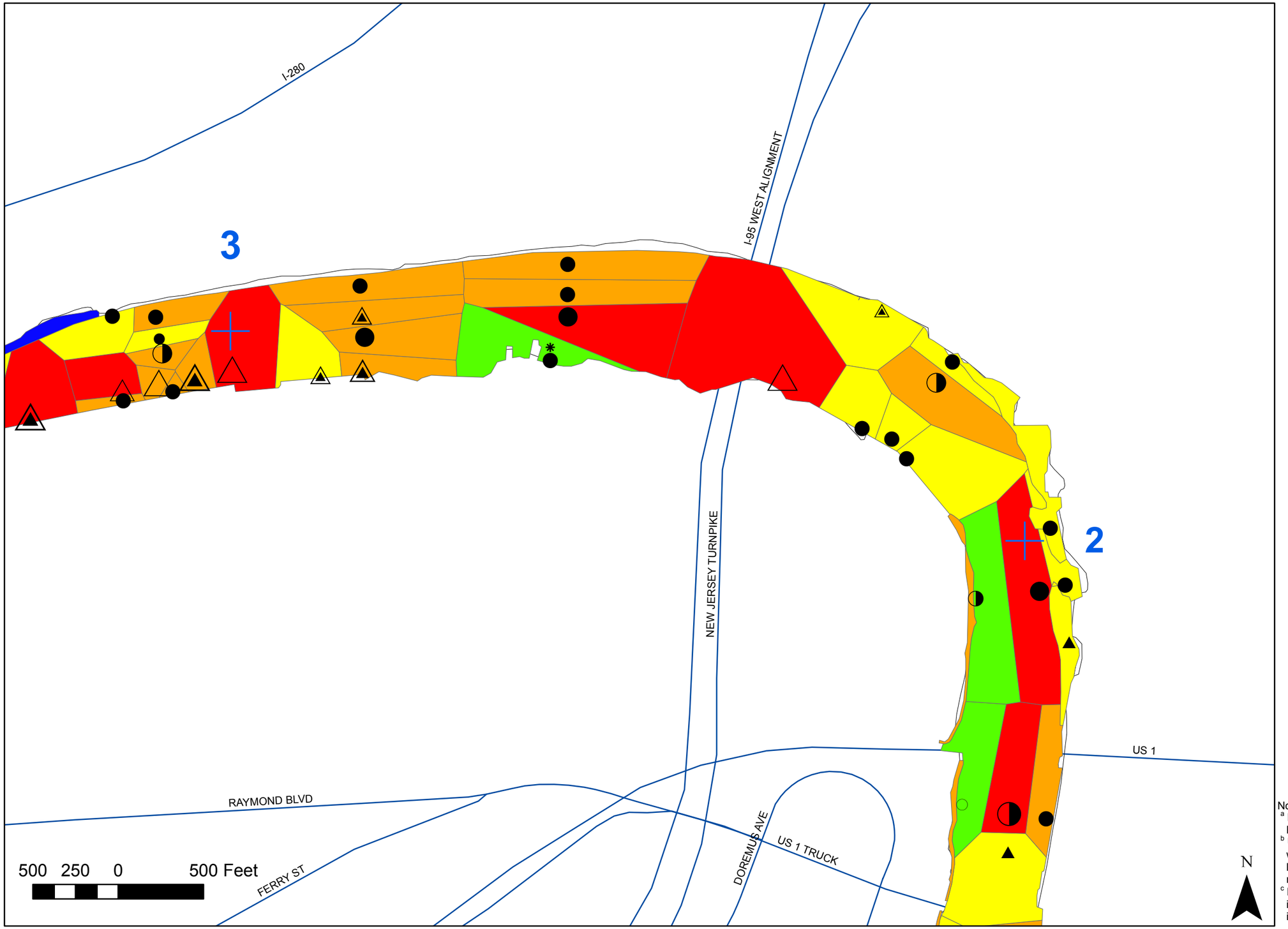

Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- ○ < 200 ng/g at core bottom
- ◑ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 200 ng/g at core bottom
- ◬ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

\+ 1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

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Mercury Mass Per Unit Area - Mile 2 to 3

Lower Passaic River Restoration Project

Figure 16-4b

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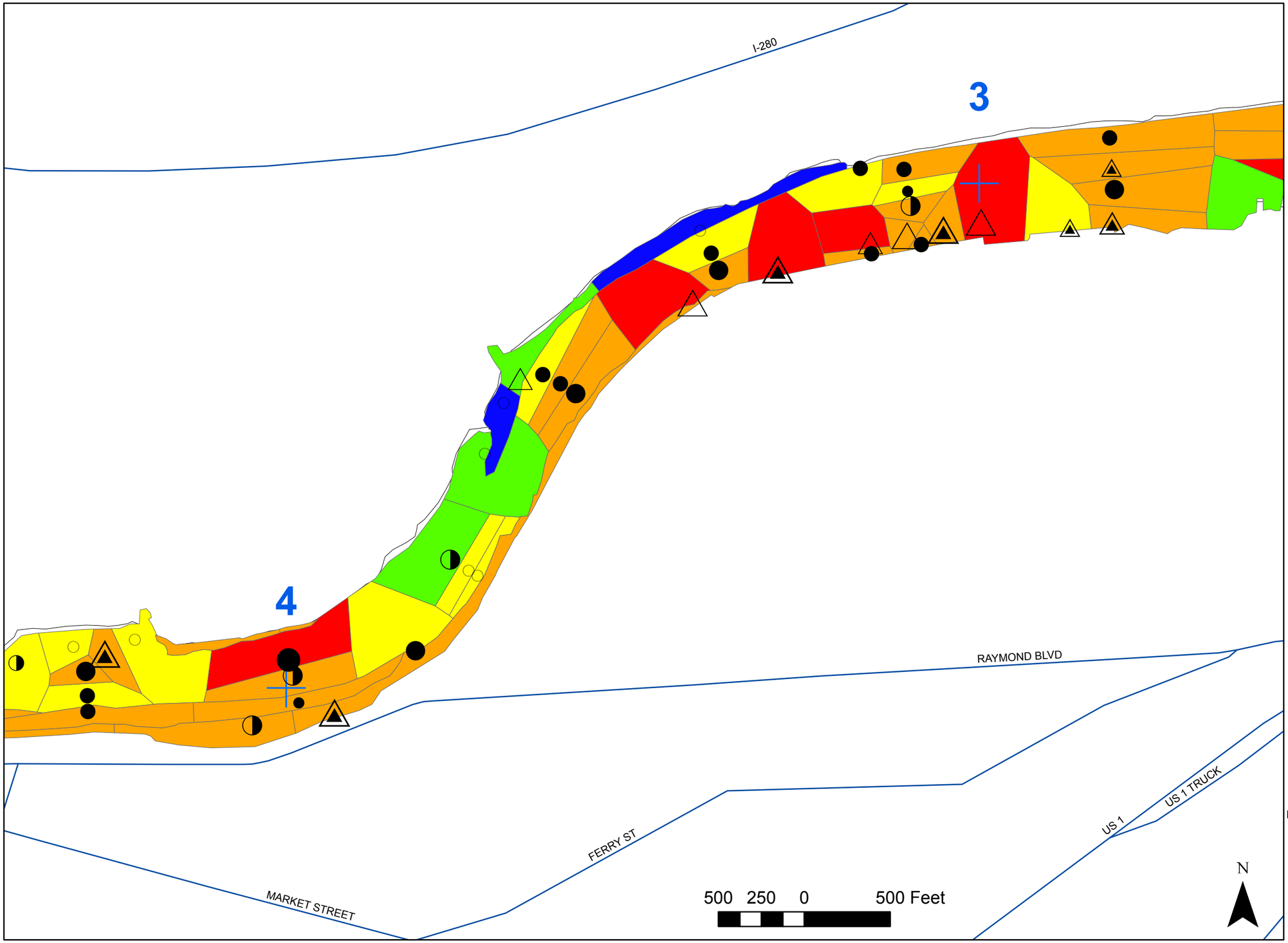

Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- < 200 ng/g at core bottom
- ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- < 200 ng/g at core bottom
- ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

+ 1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Mercury Mass Per Unit Area - Mile 3 to 4

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Figure 16-4c
Page 3 of 6

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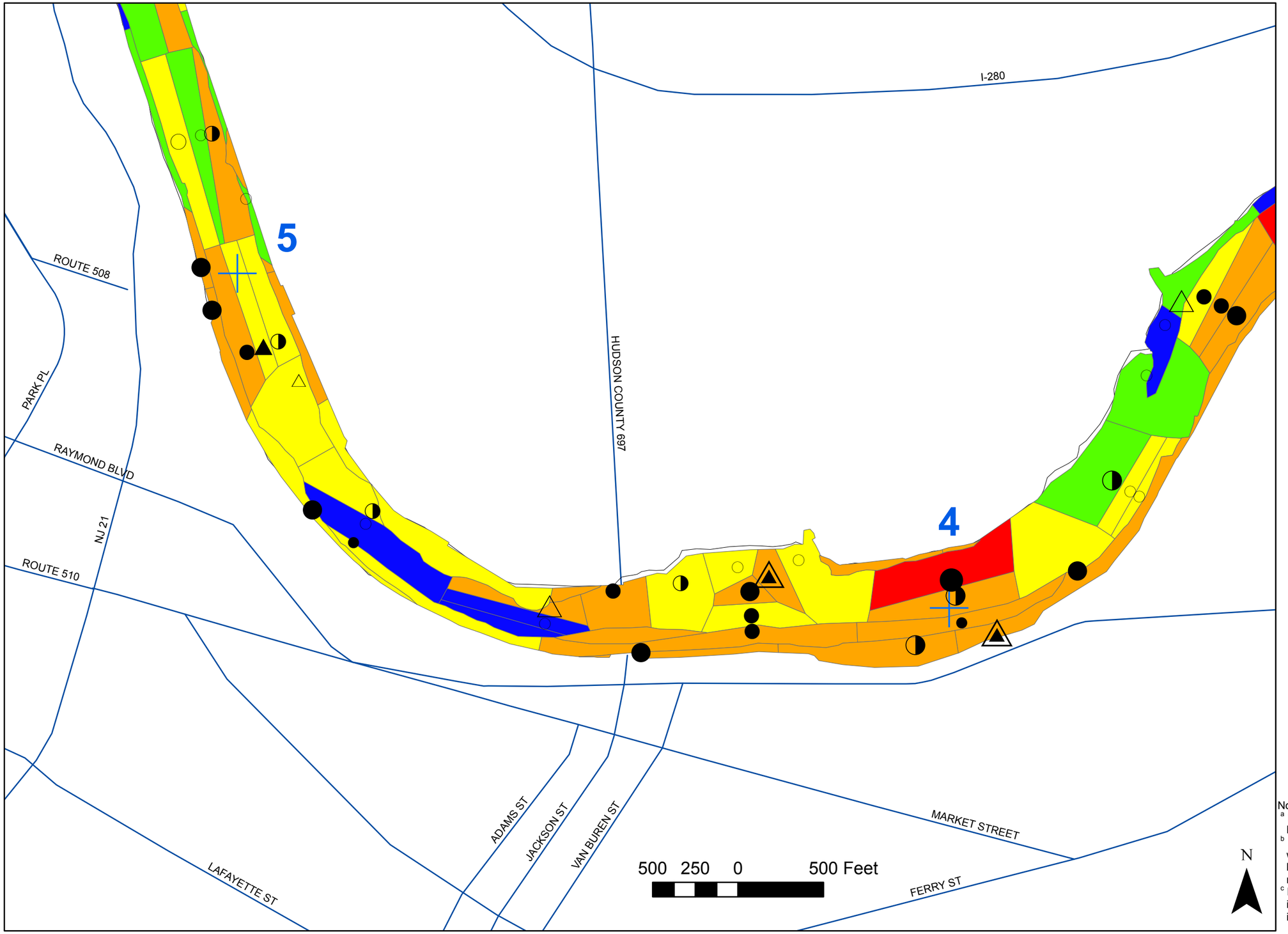

Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- < 200 ng/g at core bottom
- ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- < 200 ng/g at core bottom
- ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

+ 1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Mercury Mass Per Unit Area - Mile 4 to 5

Lower Passaic River Restoration Project

Figure 16-4d
Page 4 of 6

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Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- ○ < 200 ng/g at core bottom
- ◑ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 200 ng/g at core bottom
- ◭ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- △ ○ 0 - 5
- △ ○ 5 - 10
- △ ○ 10 - 15
- △ ○ 15 - 20

Rejected Measurement(s) Present in Core[c]

✱

River Mile Marker

+ 1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

Mercury Mass Per Unit Area - Mile 2 to 3

Lower Passaic River Restoration Project

Figure 16-4e
Page 5 of 6

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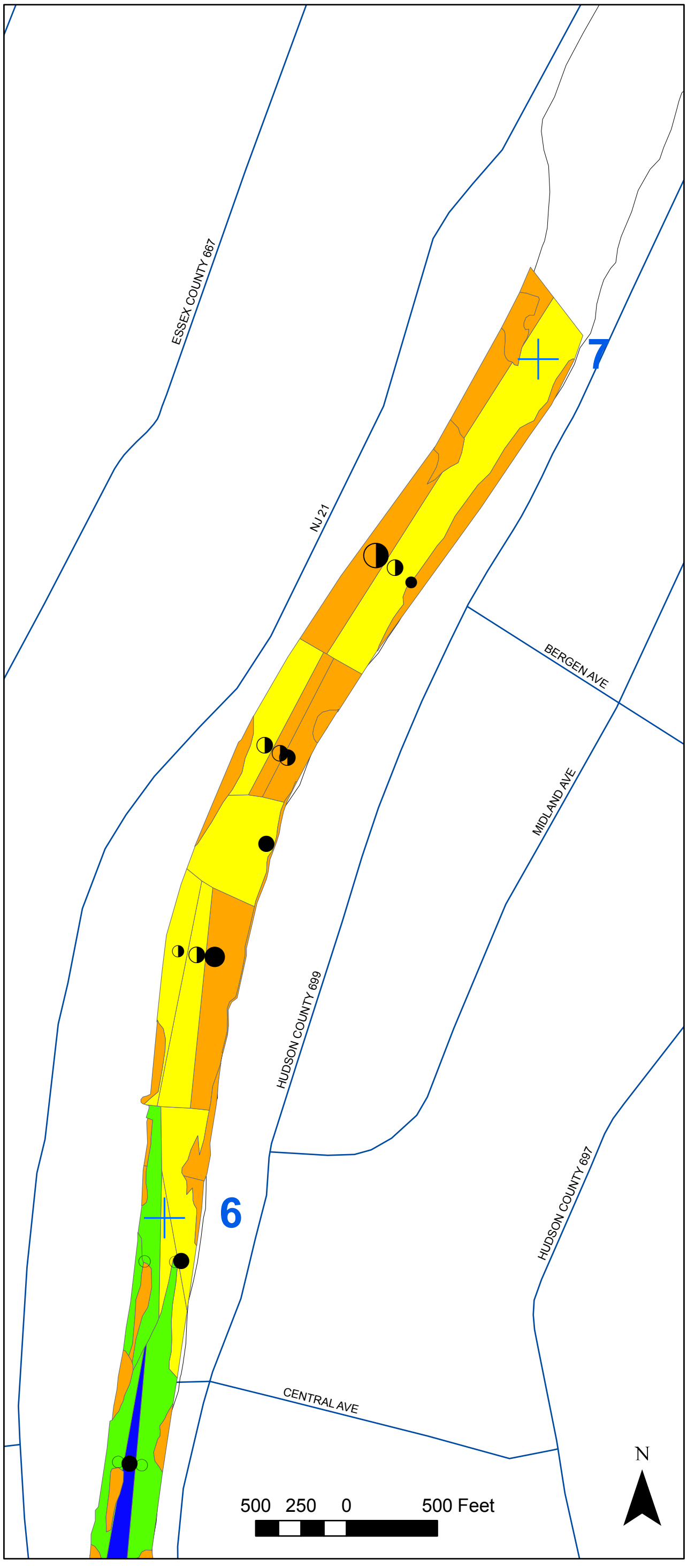

Legend

Mass Per Unit Area[a] (g/m^2)

- < 1
- 0.32 - 1
- 1 - 3.2
- 3.2 - 10
- 10 - 32
- 32 - 64

Core Type

Continuous

- ○ < 200 ng/g at core bottom
- ◑ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ● ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Interpolated[b]

- △ < 200 ng/g at core bottom
- ◭ ≥ 200 ng/g at core bottom, Bottom Conc < 50% Max Conc
- ▲ ≥ 200 ng/g at core bottom, Bottom Conc ≥ 50% Max Conc

Depth (feet)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 20

Rejected Measurement(s) Present in Core[c]

*

River Mile Marker

1

Notes:

[a] Mercury background for a 20-foot silt core is less than 0.24 g/m^2. Mercury background for a 6-foot silt core is less than 0.07 g/m^2.

[b] Unlike a continuous core, an interpolated core was not sampled continuously throughout its length. Contaminant concentrations between measured intervals were linearly interpolated.

[c] Rejected values were replaced with an interpolated value based on adjoining segments in the core.

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Mercury Mass Per Unit Area - Mile 6 to 7

Lower Passaic River Restoration Project

Figure 16-4f
Page 6 of 6

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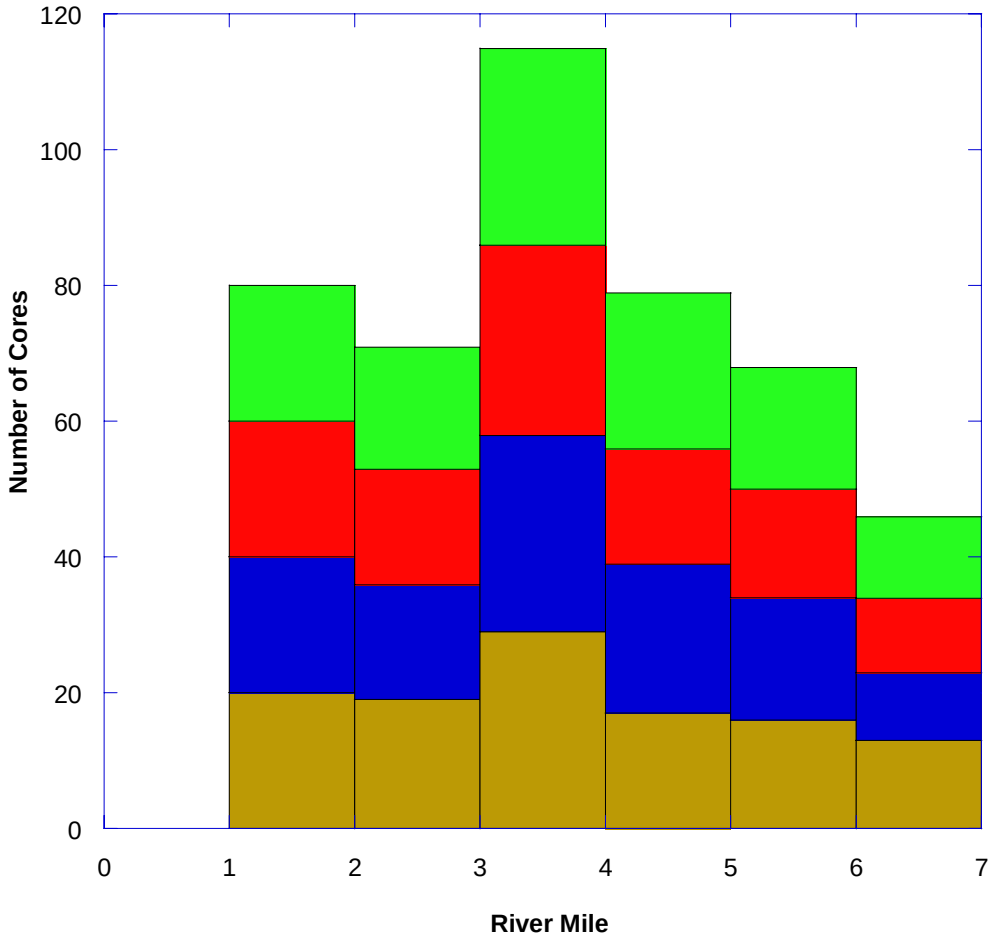

Legend

- Total DDT
- 2,3,7,8-TCDD
- Mercury
- Total PCB

Location

Notes

Each coring location can generate up to four MPA values, one for each contaminant.

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Histogram of MPA Values per River Mile

Lower Passaic River Restoration Project

Figure 16-5

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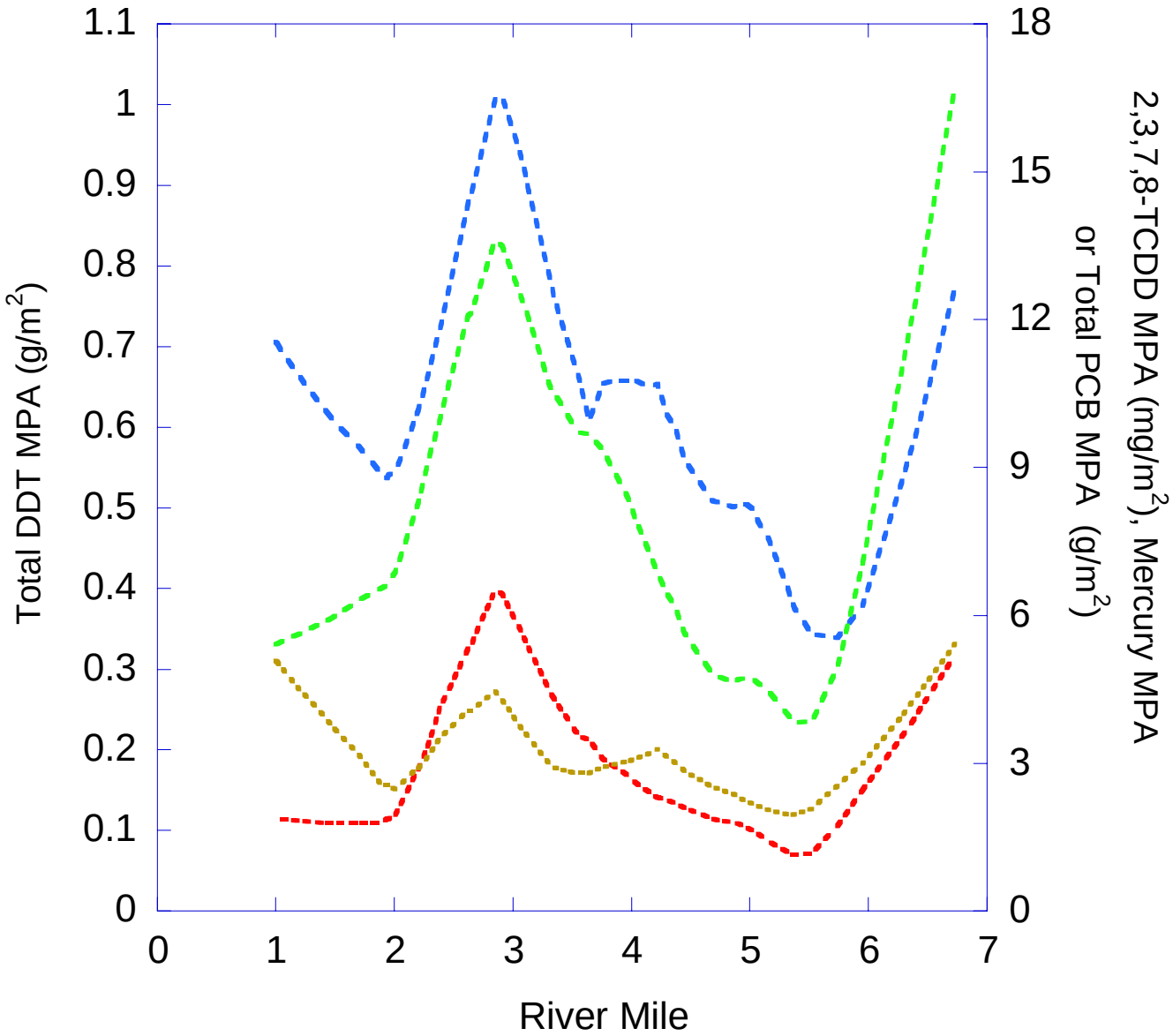


Legend

- Mercury
- 2,3,7,8-TCDD
- Total PCB
- Total DDT

Note:

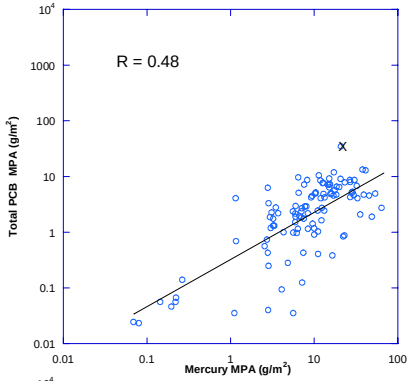
MPA is mass per unit area

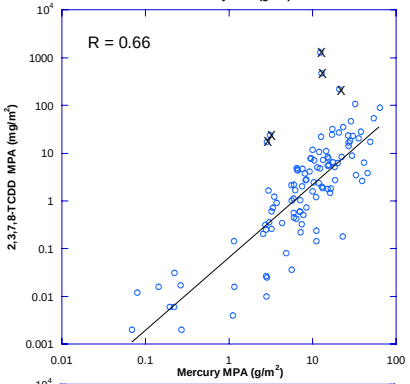
Weighted Curve Sediment Inventory versus River Mile

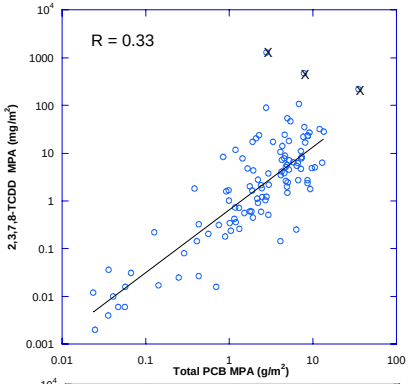
Lower Passaic River Restoration Project

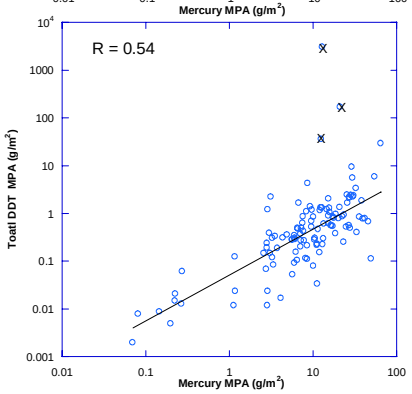
Figure 16-6

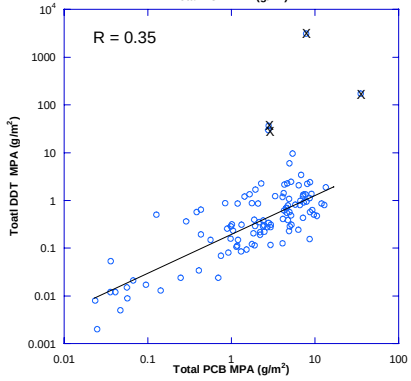
September 2008

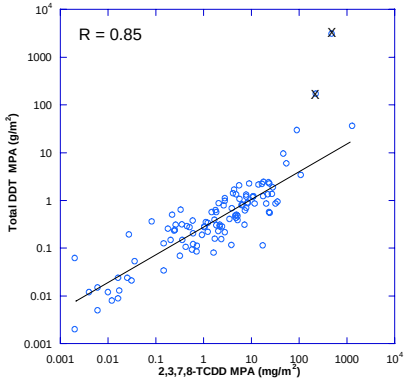












Legend

- Data points
- x — Points excluded from the regression
- Regression Line

Note:

Regression Coefficient (R) is based on a linear regression of the logs of the mass per unit area (MPA) values. The MPA values are approximately log normal.

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Mass Per Unit Area Correlation Matrix

Lower Passaic River Restoration Project

Figure 16-7

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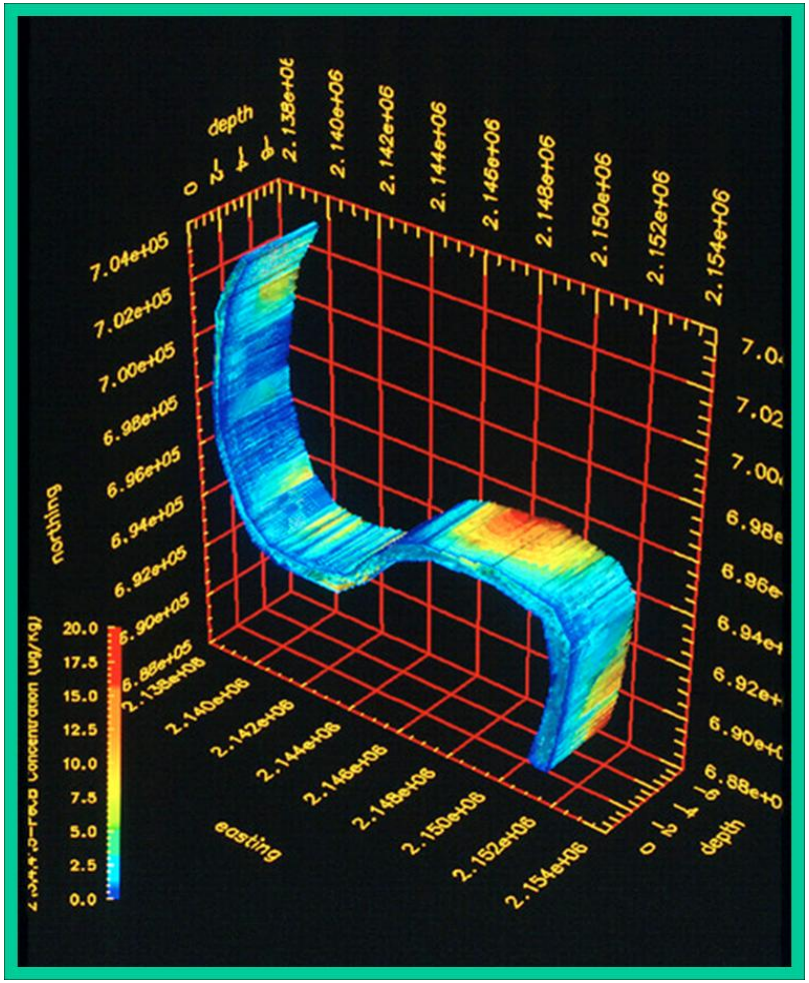
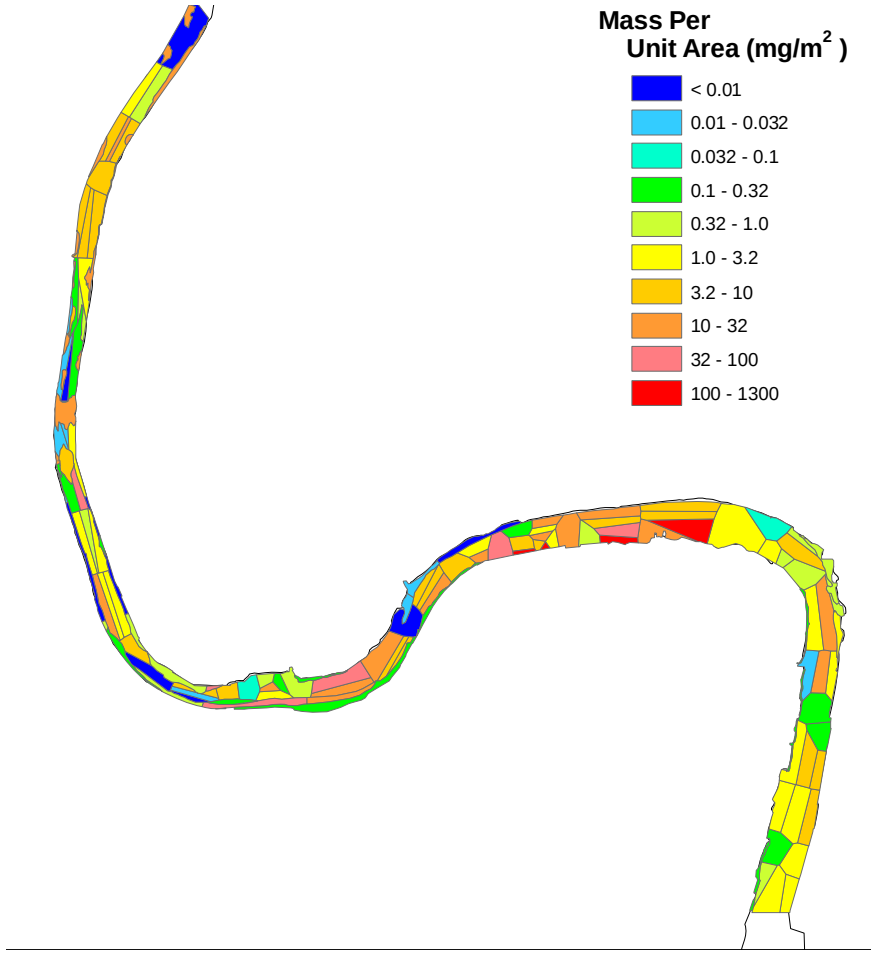


3-Dimensional Distribution taken from Ma et al. (1998)



MPA Map for 2,3,7,8-TCDD for RM 1 through 7 (Figure 5-3)

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Comparison of 2,3,7,8-TCDD Spatial Extent

Lower Passaic River Restoration Project

Figure 16-8

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N

14.5

14.6

14.7

14.8

14.9

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9a

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14.4
14.3
14.2
14.1
14
13.9

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9b

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9c

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9d

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9e

September 2008

N

12.5

12.6

12.5

12.4

12.3

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

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Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9f

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12.3

12.2

12.1

11.9

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

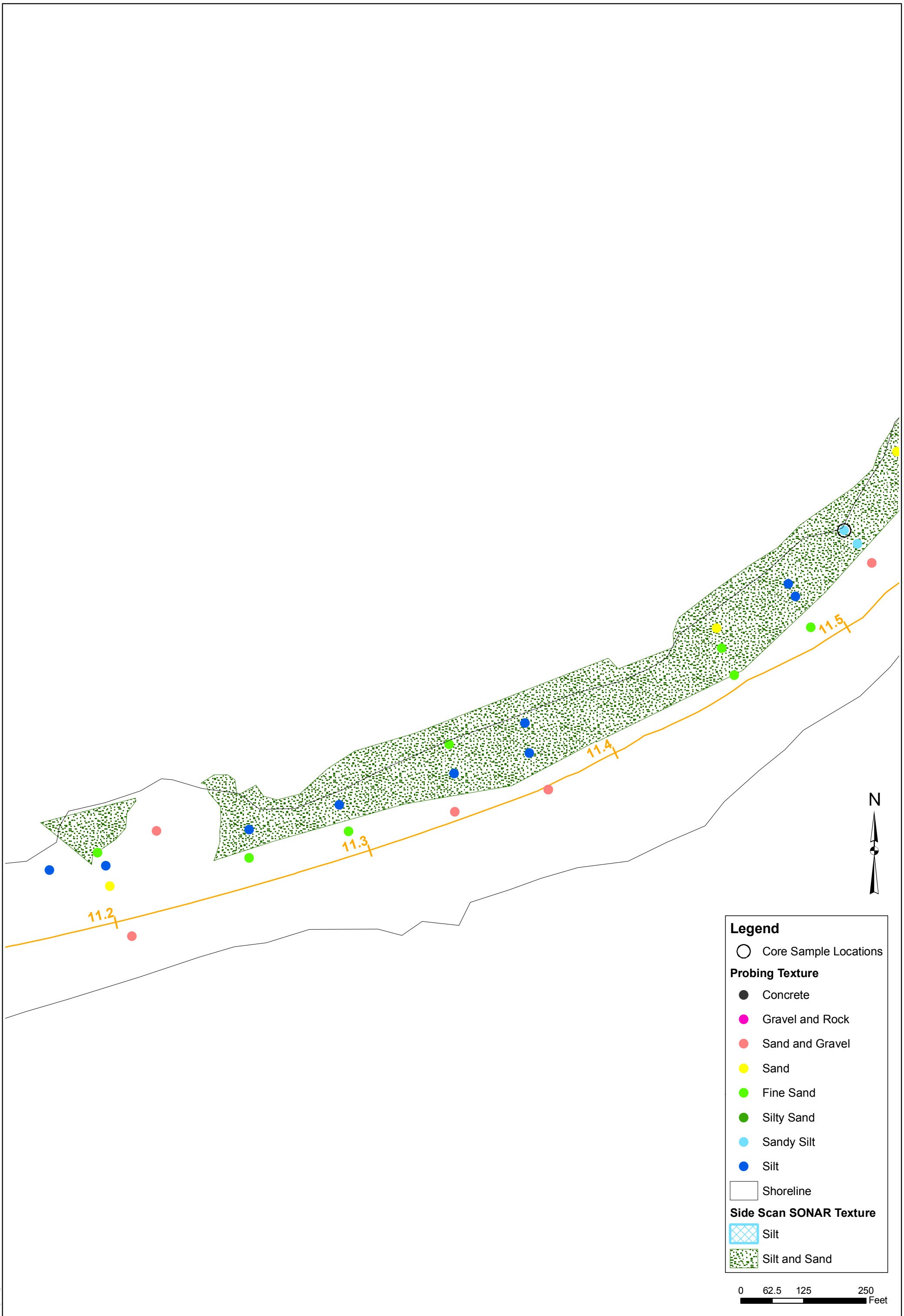
Lower Passaic River Restoration Project

Figure 16-9g

September 2008

S:\Projects\PASS A\CMapDocuments\ProbingPoints_Texture.mxd

11.9
11.8
11.7
11.6
11.5
N
Legend
Core Sample Locations
Probing Texture
Concrete
Gravel and Rock
Sand and Gravel
Sand
Fine Sand
Silty Sand
Sandy Silt
Silt
Shoreline
Side Scan SONAR Texture
Silt
Silt and Sand
0 62.5 125 250
Feet
US Army Corps of Engineers®
Sediment Texture from Probing Above RM8
Lower Passaic River Restoration Project
Figure 16-9h
September 2008
S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd



US Army Corps of Engineers

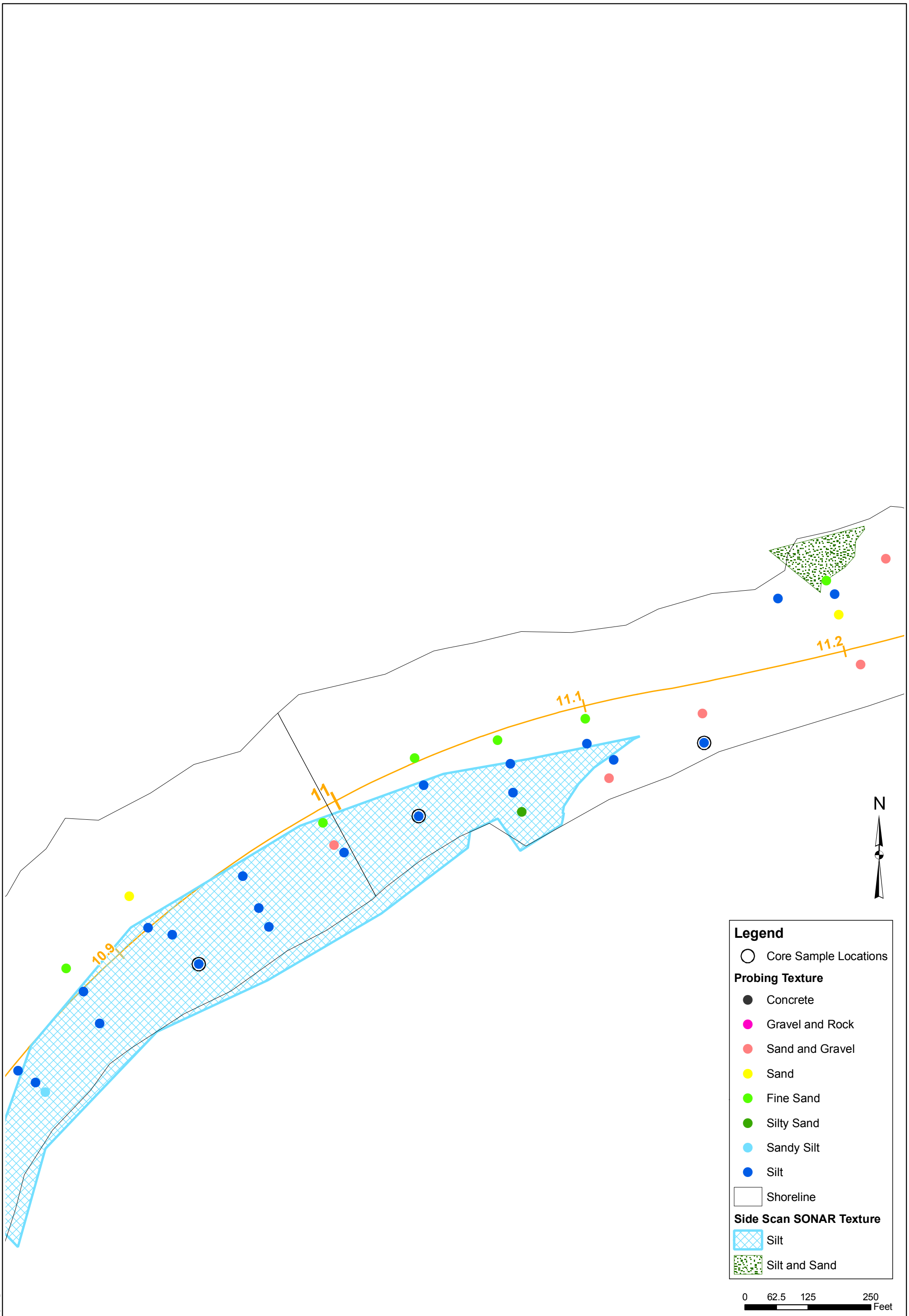
Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9i

September 2008

S:\Projects\PASSAIC\MapDocument\ProbingPoints_Texture.mxd



US Army Corps of Engineers®

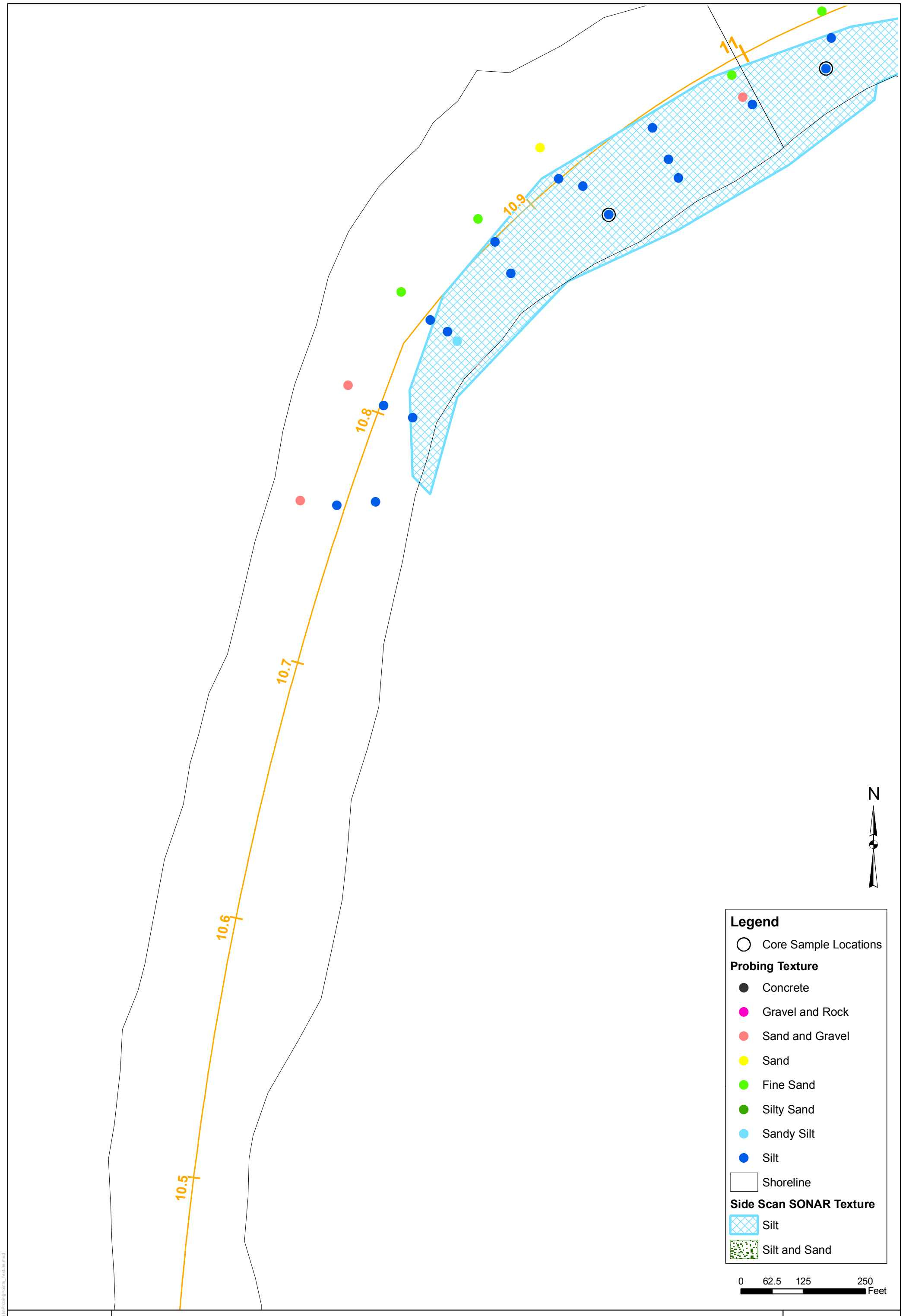
Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9j

September 2008

S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd



US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9k

September 2008

S:\Projects\PASSAIC\Map Documents\ProbingPoints_Texture.mxd

10.5

10.4

10.3

10.2

10.1

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9l

September 2008

S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd

10.1

10

9.9

9.8

9.7

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9m

September 2008

S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd

9.7

9.6

9.5

9.4

9.3

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9n

September 2008

S:\Projects\PASS\AIC\MapDocuments\ProbingPoints_Texture.mxd

9.3
9.2
9.1
8.9
N
Legend
Core Sample Locations
Probing Texture
Concrete
Gravel and Rock
Sand and Gravel
Sand
Fine Sand
Silty Sand
Sandy Silt
Silt
Shoreline
Side Scan SONAR Texture
Silt
Silt and Sand
0 62.5 125 250
Feet
US Army Corps of Engineers®
Sediment Texture from Probing Above RM8
Lower Passaic River Restoration Project
Figure 16-9o
September 2008
S:\Projects\PASSAIC\Map Documents\ProbingPoints_Texture.mxd

8.9

8.8

8.7

8.6

8.5

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9p

September 2008

S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd

8.4

8.3

8.2

8.1

8

N

Legend

- Core Sample Locations

Probing Texture

- Concrete
- Gravel and Rock
- Sand and Gravel
- Sand
- Fine Sand
- Silty Sand
- Sandy Silt
- Silt
- Shoreline

Side Scan SONAR Texture

- Silt
- Silt and Sand

0 62.5 125 250 Feet

US Army Corps of Engineers®

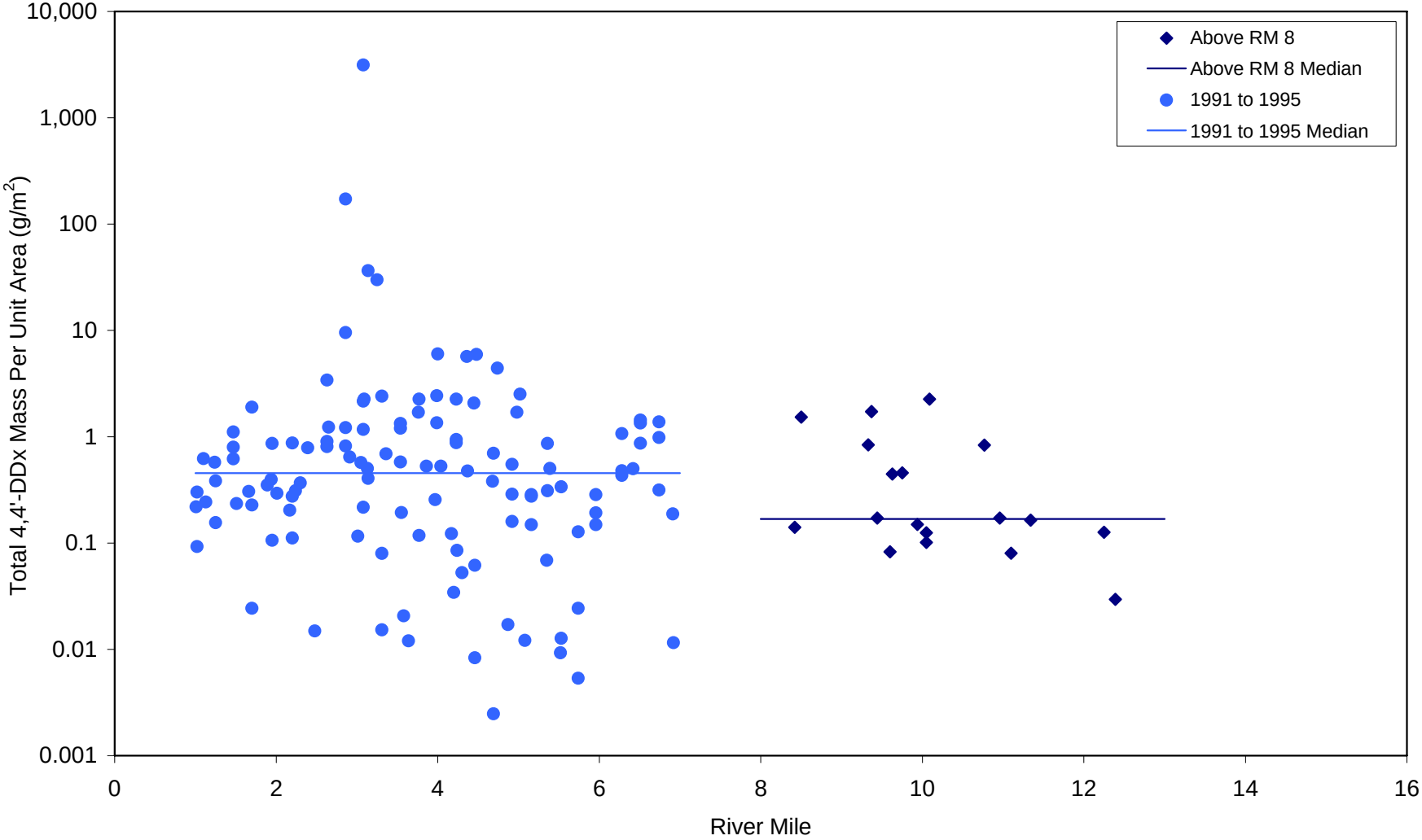
Sediment Texture from Probing Above RM8

Lower Passaic River Restoration Project

Figure 16-9q

September 2008

S:\Projects\PASSAIC\MapDocuments\ProbingPoints_Texture.mxd



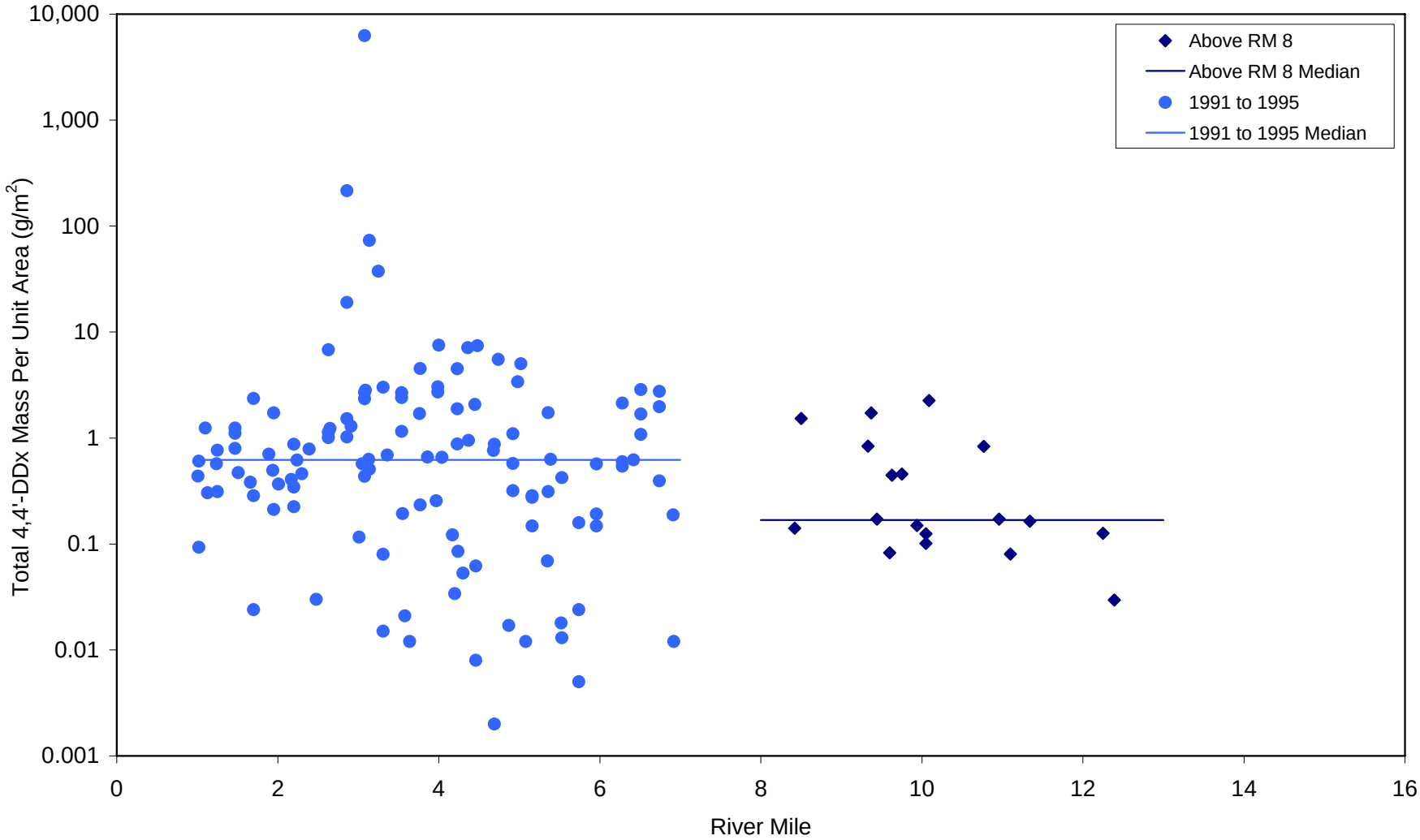
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were not extrapolated and thus provide a minimum inventory estimate. Approximately 66 percent of 1991-1995 cores were incomplete.

Total 4,4'-DDx MPA versus River Mile
(As Measured)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10a

September 2008



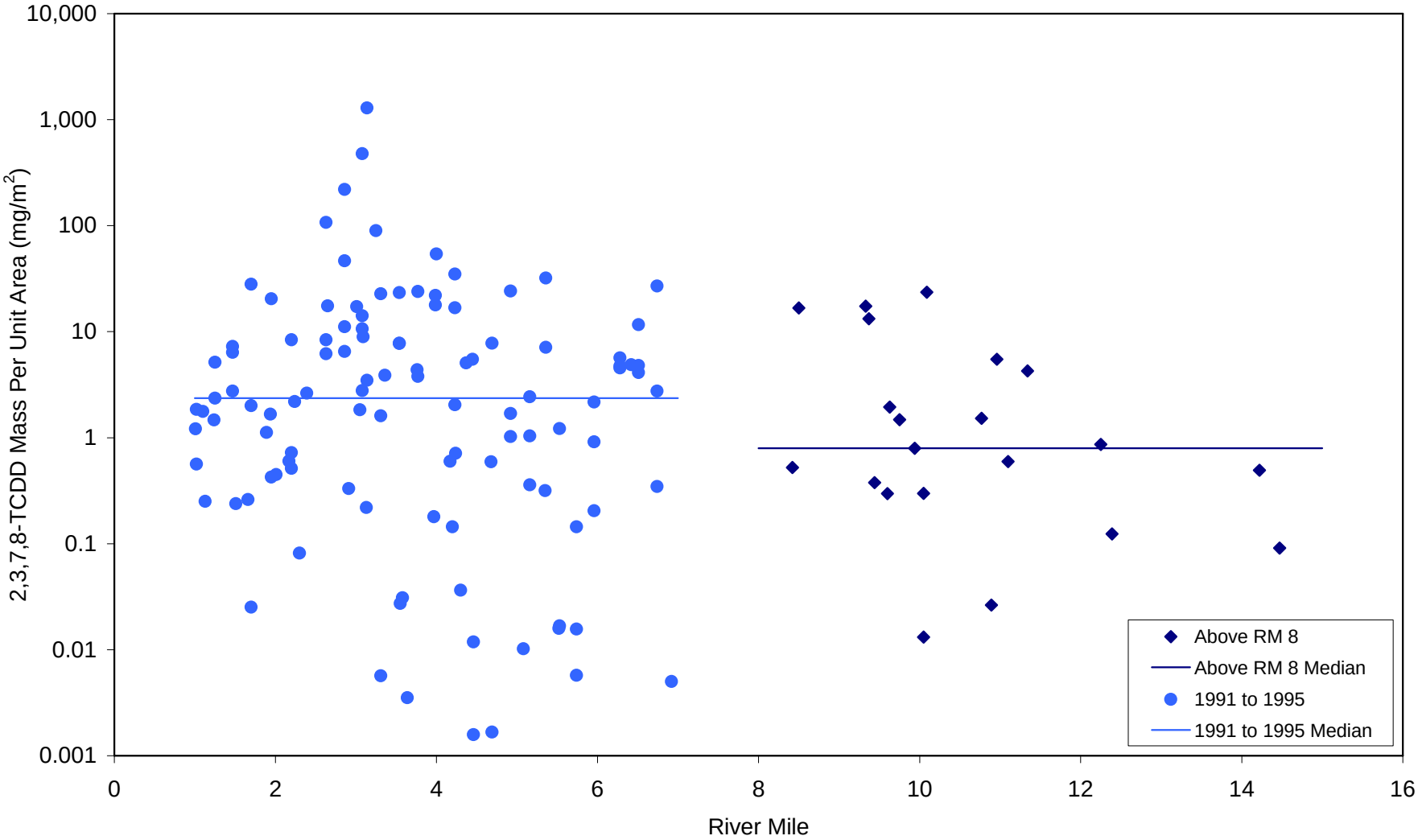
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were extrapolated to provide a complete inventory estimate. Approximately 66 percent of 1991-1995 cores were incomplete.

Total 4,4'-DDx MPA versus River Mile
(With Extrapolated Cores)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10b

September 2008



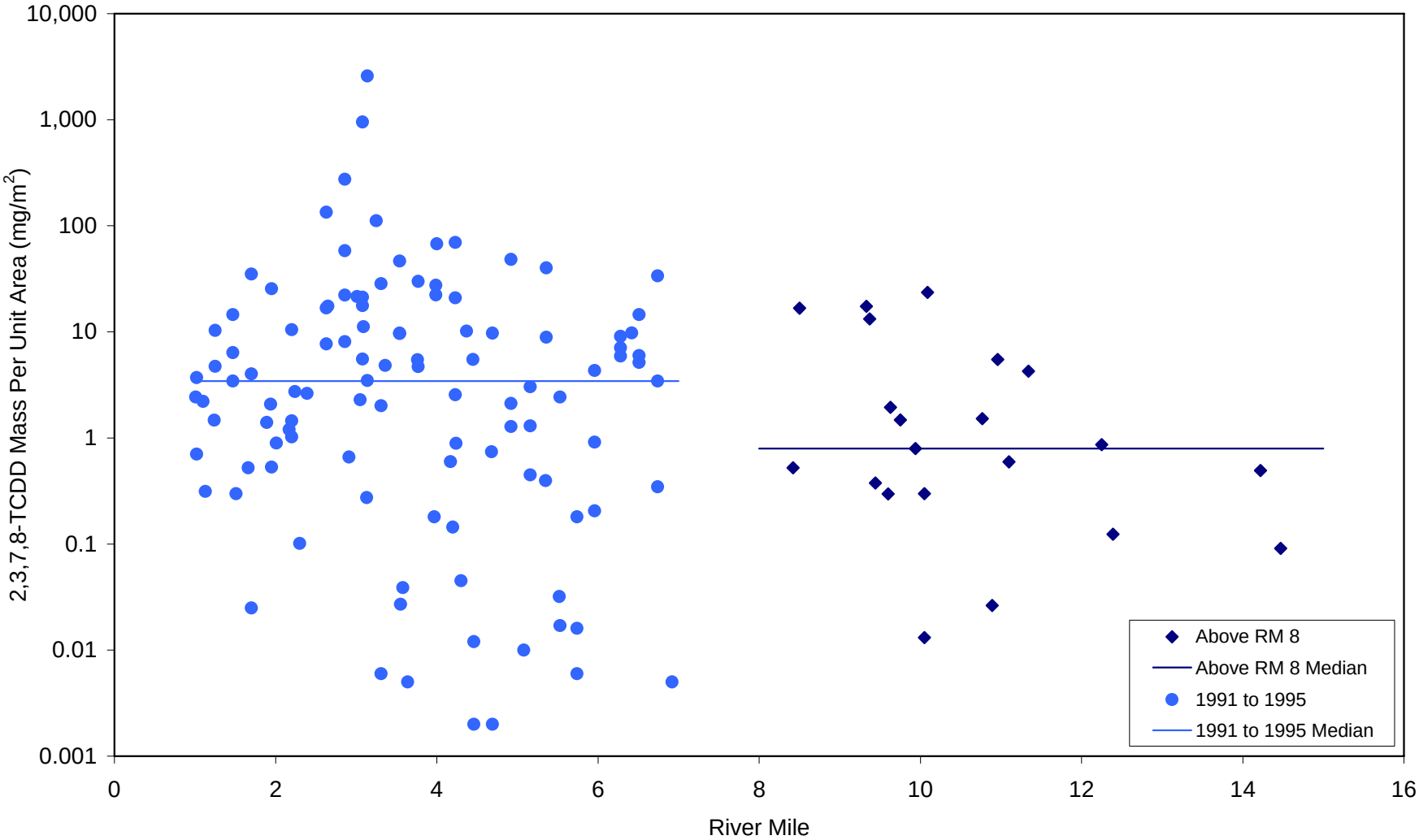
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were not extrapolated and thus provide a minimum inventory estimate. Approximately 79 percent of 1991-1995 cores were incomplete.

2,3,7,8-TCDD MPA versus River Mile
(As Measured)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10c

September 2008



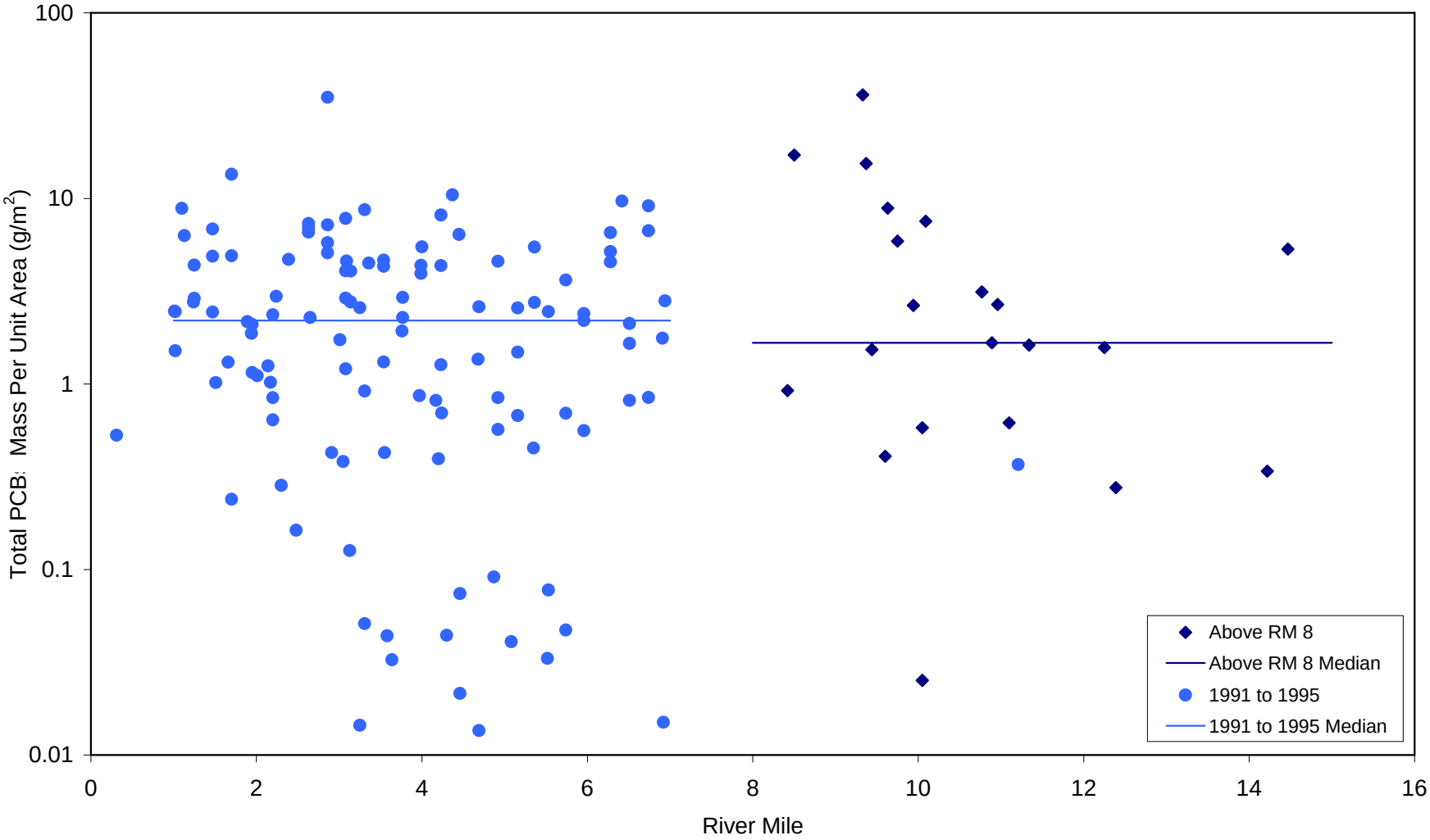
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were extrapolated to provide a complete inventory estimate. Approximately 79 percent of 1991-1995 cores were incomplete.

2,3,7,8-TCDD MPA versus River Mile
(With Extrapolated Cores)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10d

September 2008



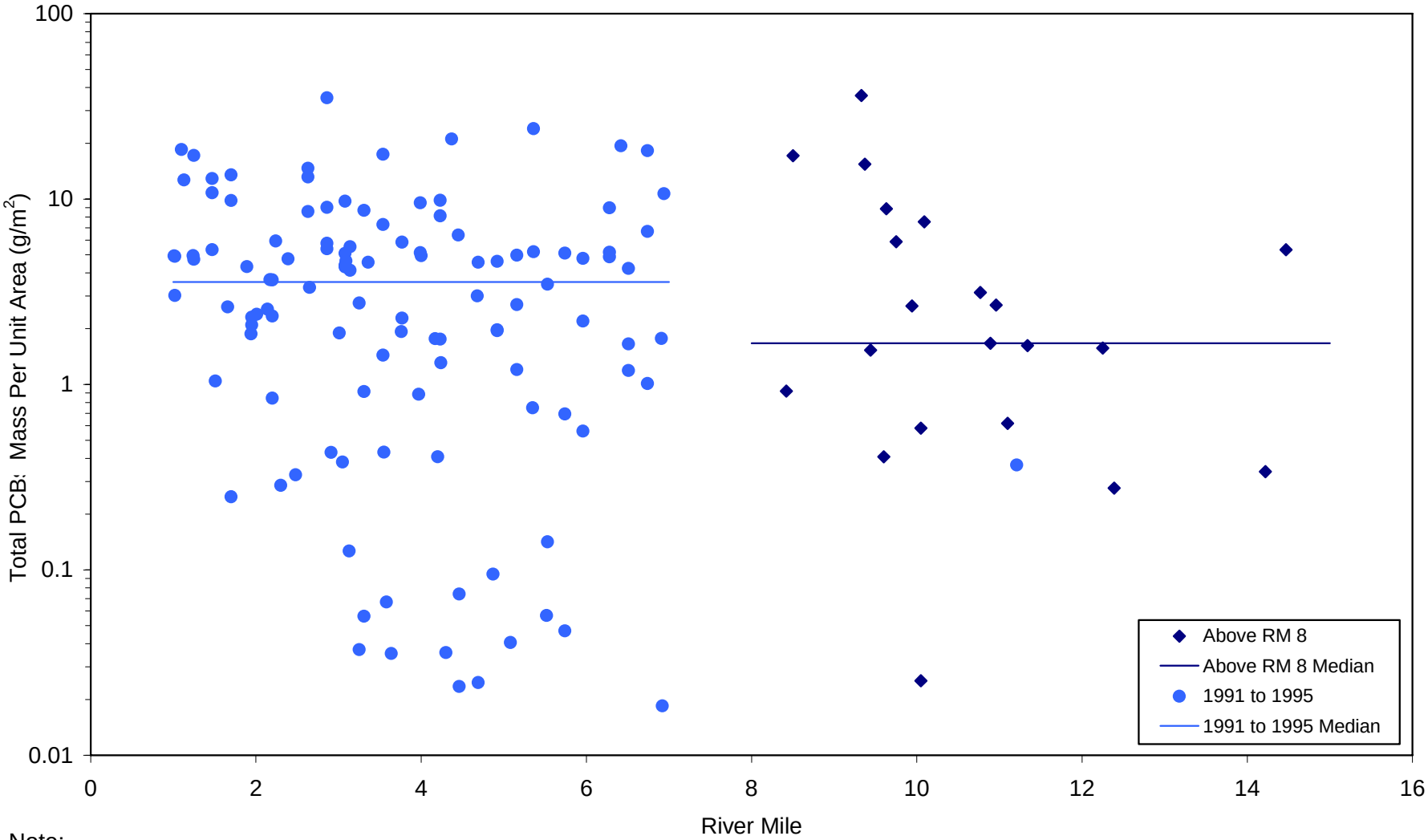
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were not extrapolated and thus provide a minimum inventory estimate. Approximately 44 percent of 1991-1995 cores were incomplete.

Total PCB MPA versus River Mile
(As Measured)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10e

September 2008



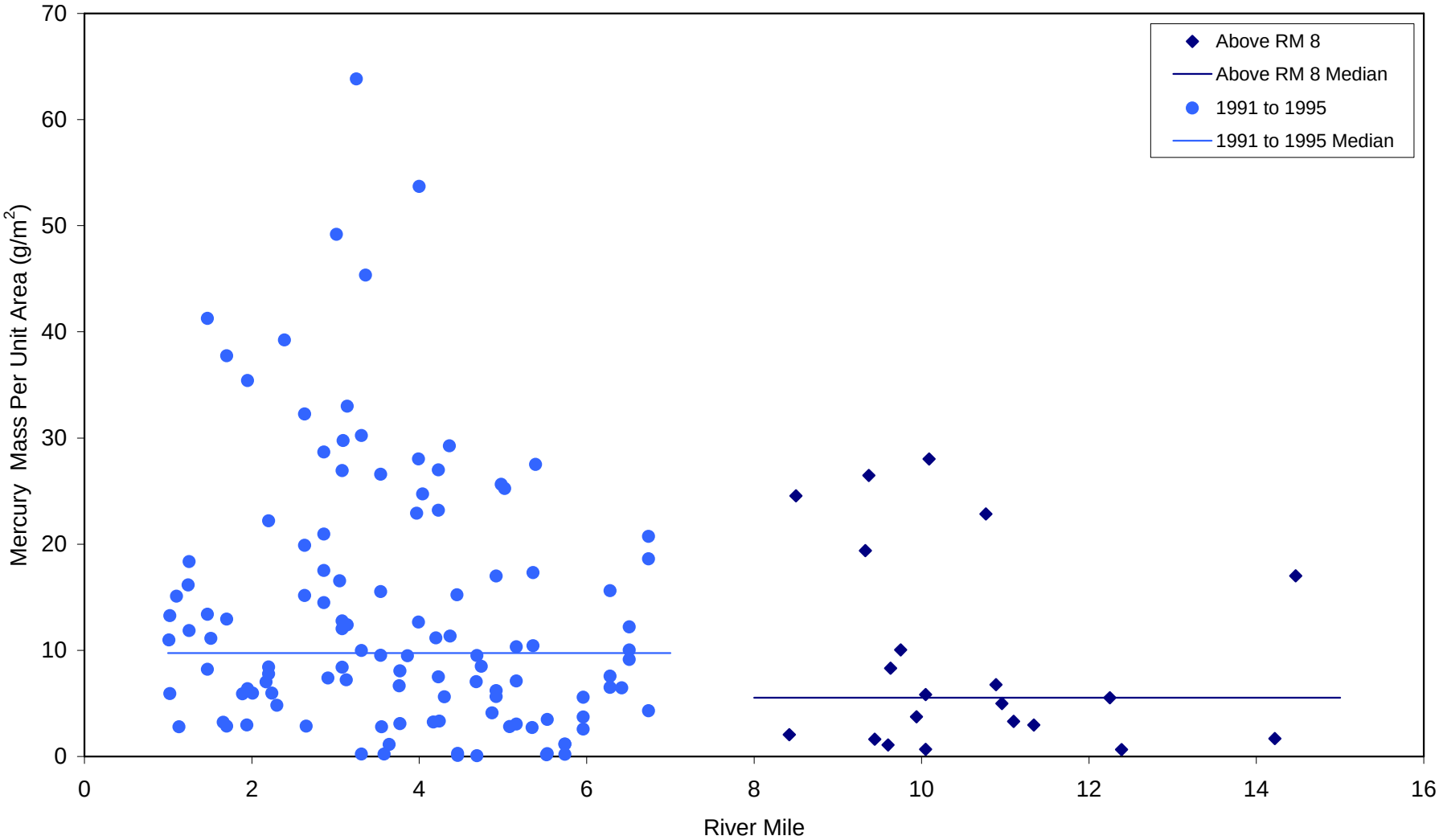
Note:

1. Vertical scale is logarithmic.
2. Incomplete cores from 1991 to 1995 were extrapolated to provide a complete inventory estimate. Approximately 44 percent of 1991-1995 cores were incomplete.

Total PCB MPA versus River Mile
(With Extrapolated Cores)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10f

September 2008



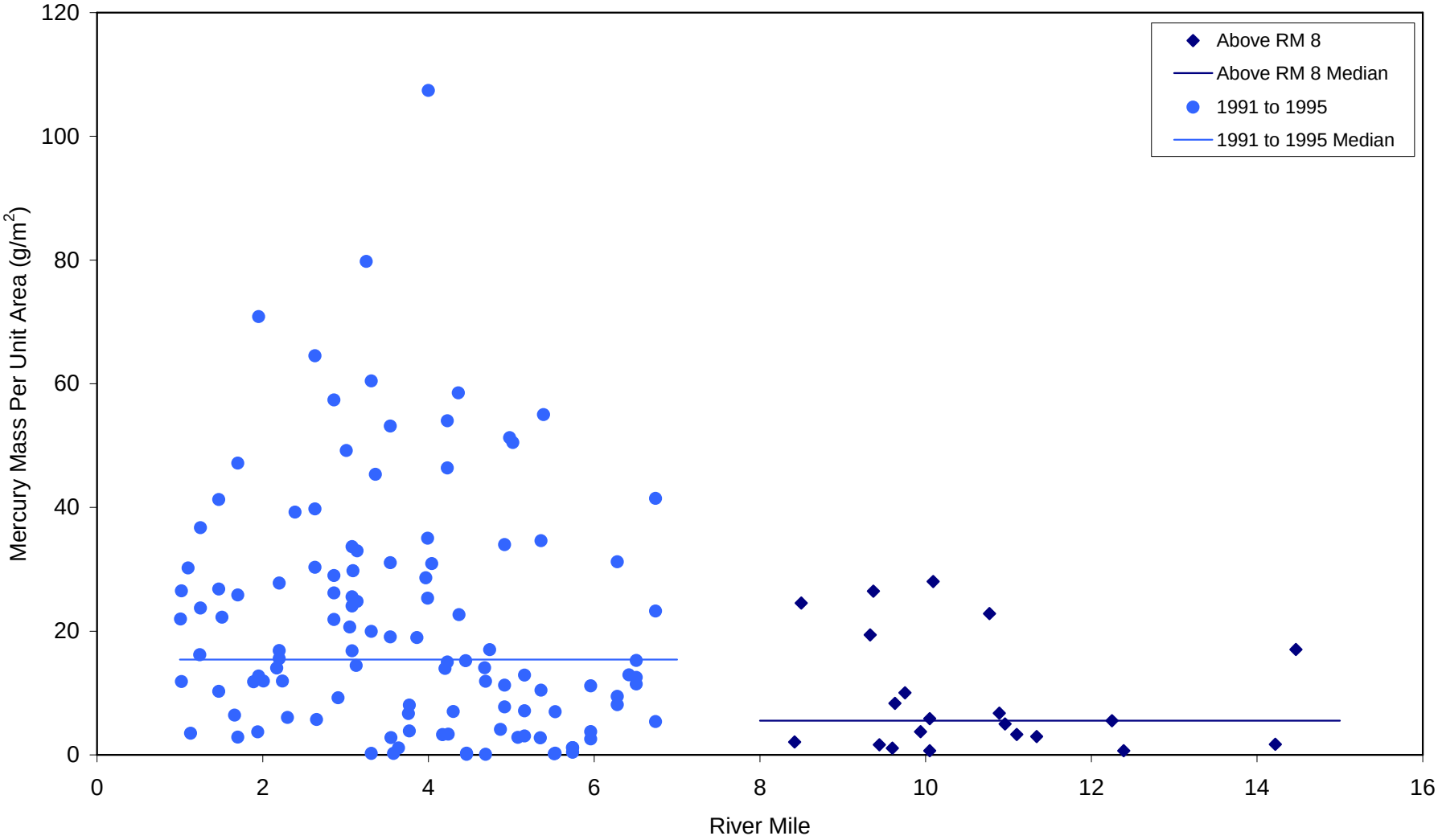
Note:

1. Incomplete cores from 1991 to 1995 were not extrapolated and thus provide a minimum inventory estimate. Approximately 72 percent of 1991-1995 cores were incomplete.

Mercury MPA versus River Mile
(As Measured)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10g

September 2008



Note:

1. Incomplete cores from 1991 to 1995 were extrapolated to provide a complete inventory estimate. Approximately 72 percent of 1991-1995 cores were incomplete.

Mercury MPA versus River Mile
(With Extrapolated Cores)
2008, RM 8 to 15 and 1991-1995, RM 1 to 7
Lower Passaic River Restoration Project

Figure 16-10h

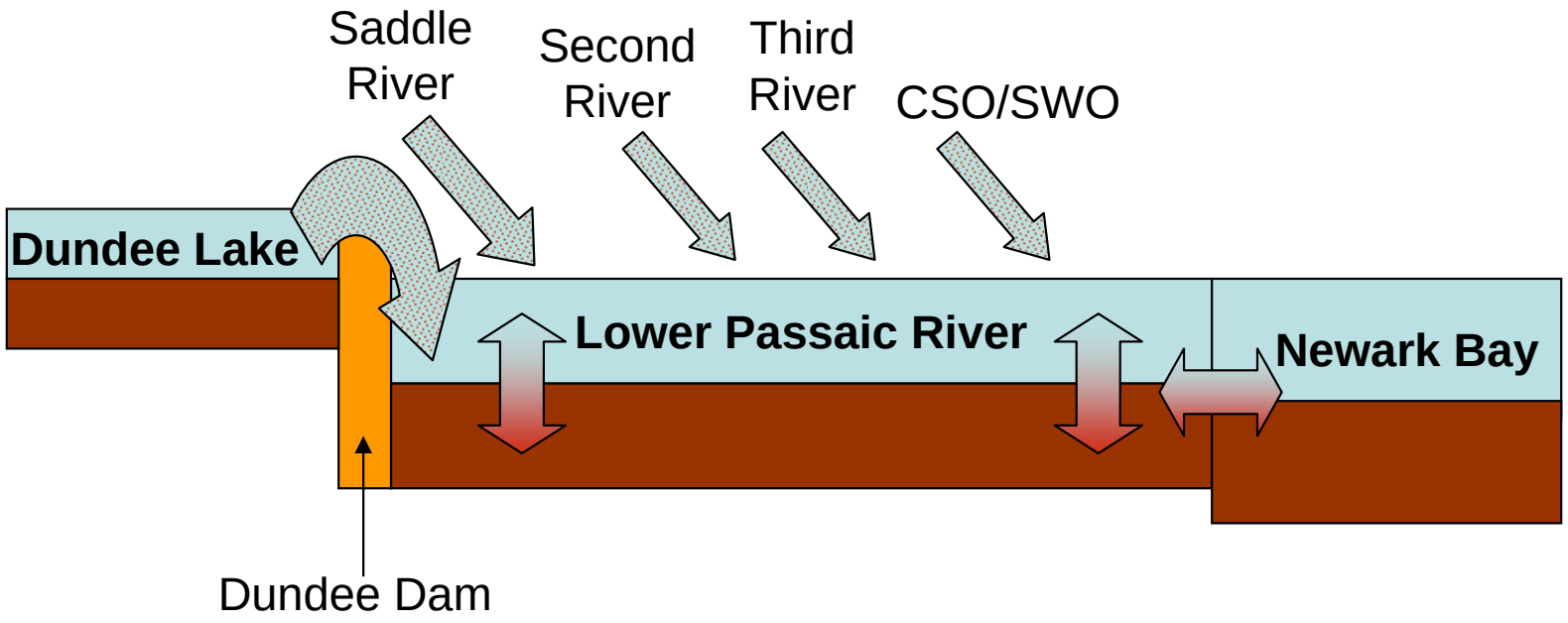
September 2008

Section VI

Chapter 17 Figures

There are no figures associated with this chapter

Chapter 18 Figures



Legend

Water

Sediment

Notes

Schematic of Model for the Lower Passaic River Empirical Mass Balance

Lower Passaic River Restoration Project

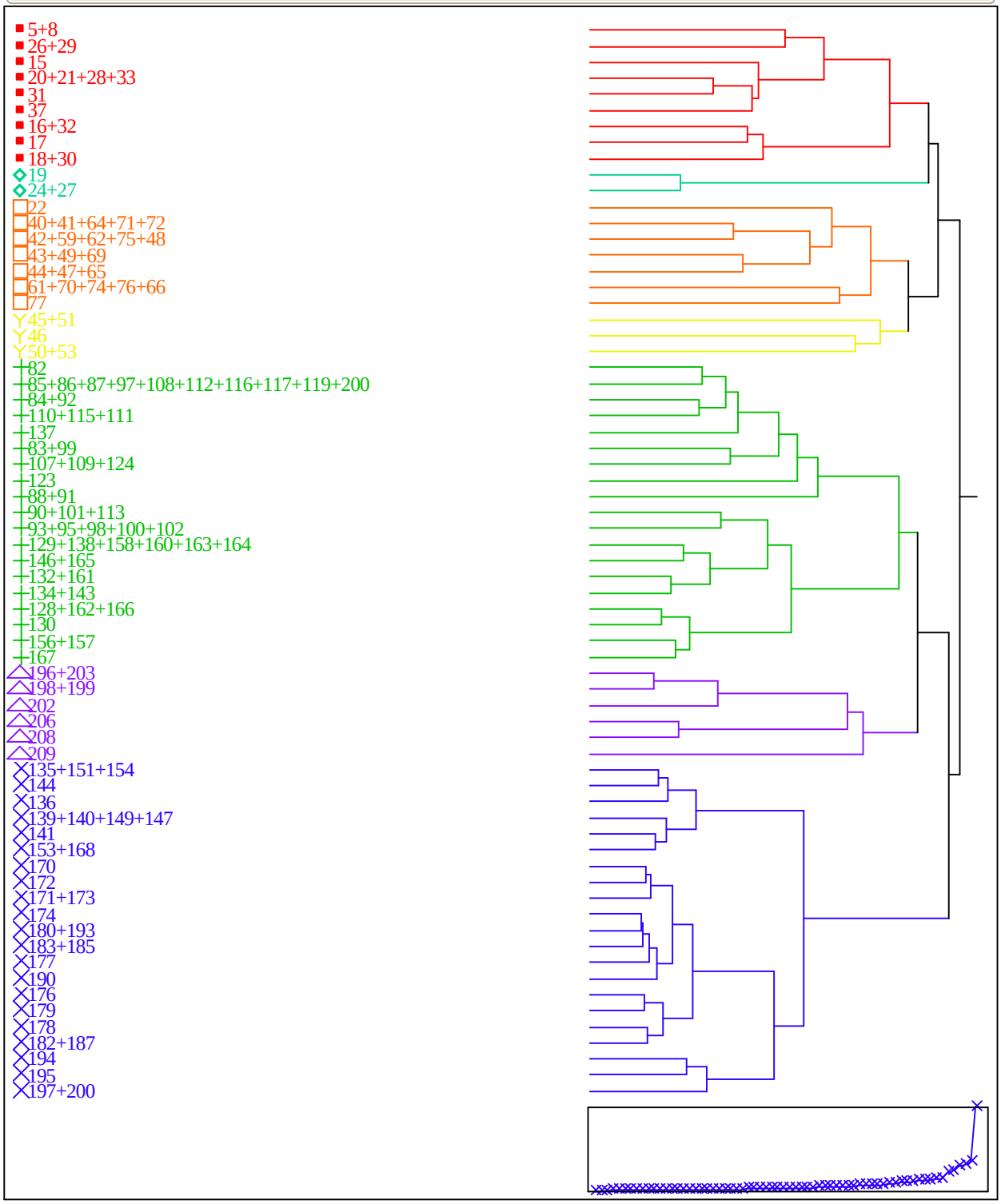
Figure 18-1

September 2008

Hierarchical Clustering

Method = Ward

Dendrogram



PCB Congener Cluster Analysis

Lower Passaic River Restoration Project

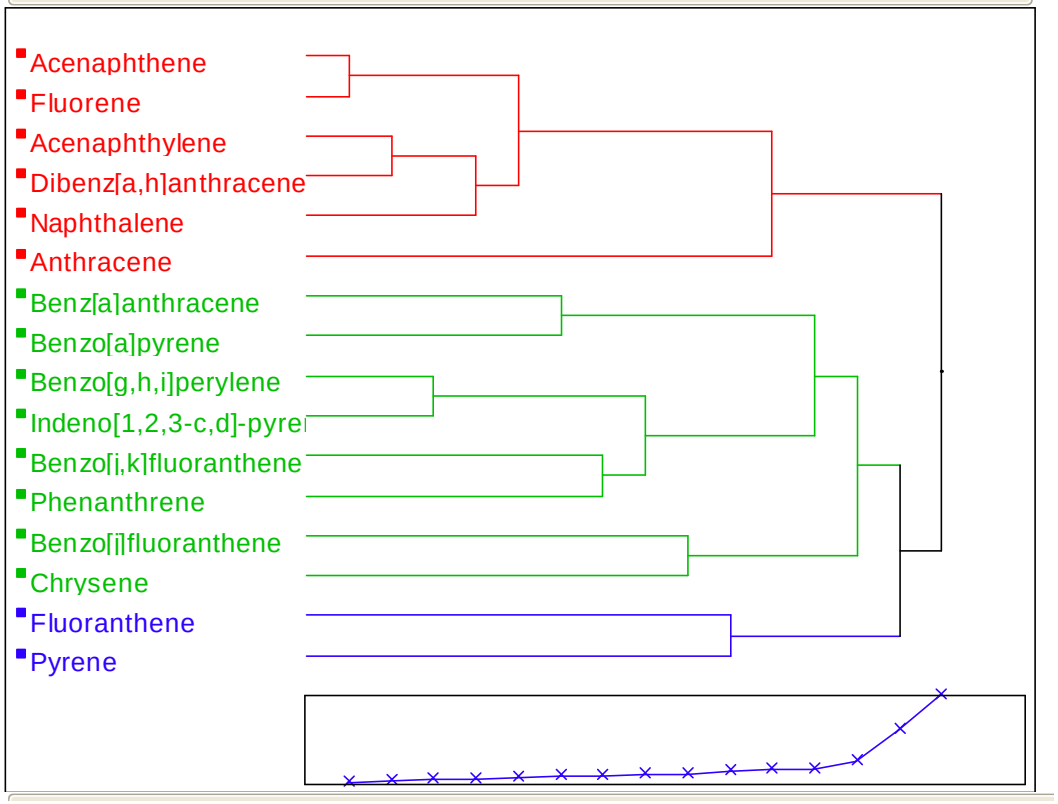
Figure 18-2

September 2008

Hierarchical Clustering

Method =Ward

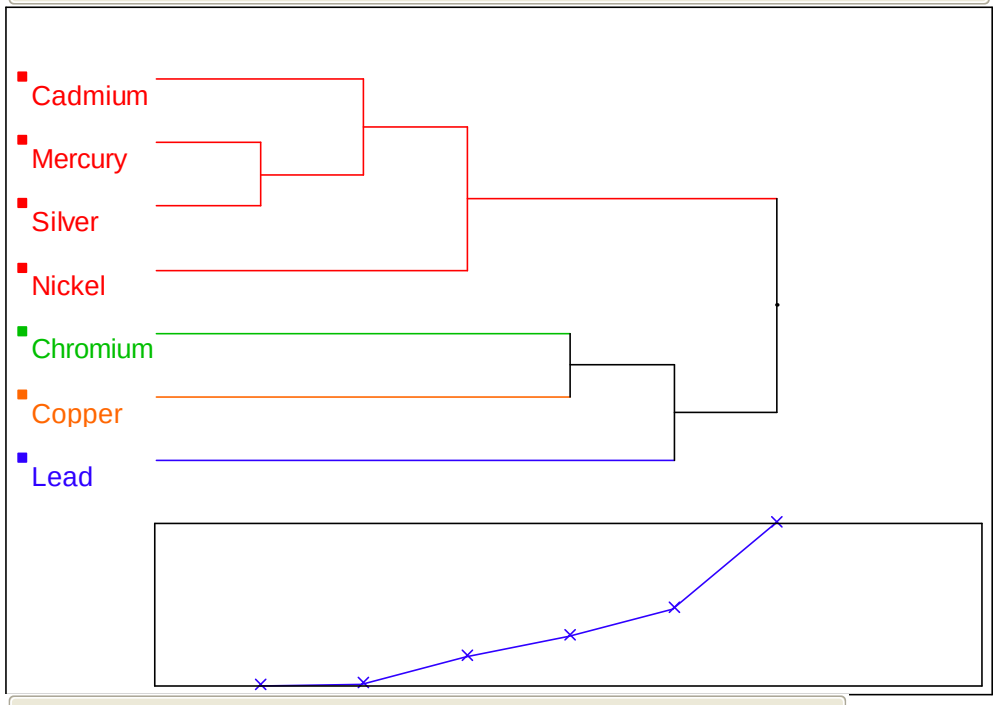
Dendrogram



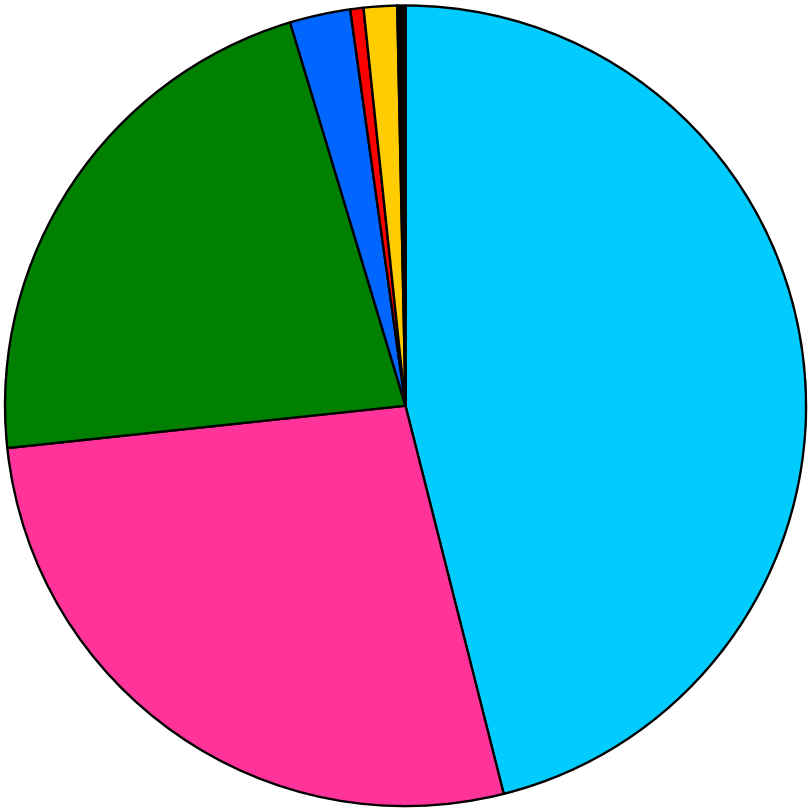
Hierarchical Clustering

Method = Ward

Dendrogram



Chapter 19 Figures



Legend

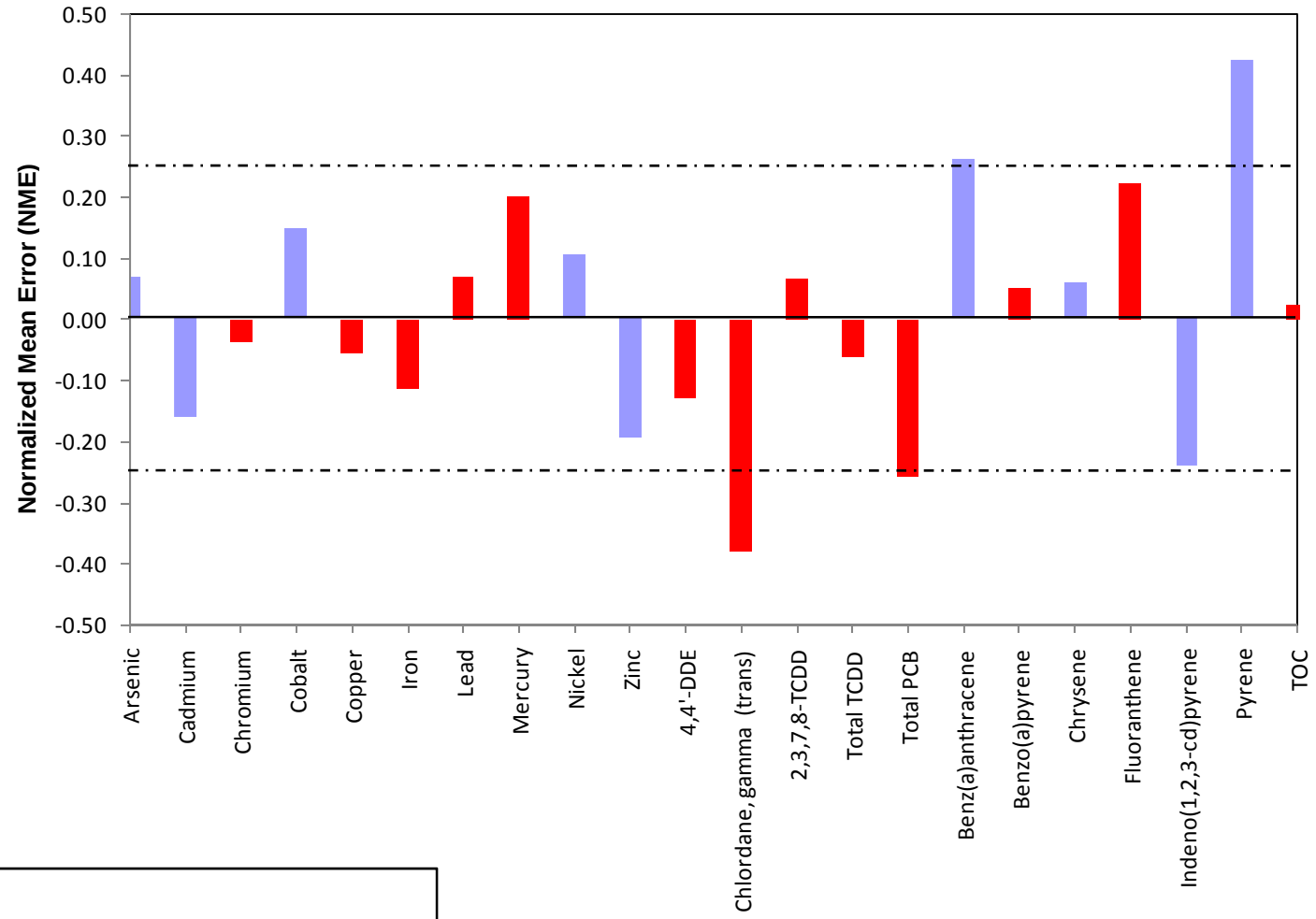
- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

Solid Contribution to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-1

September 2008



Legend

------ 25%

Chemicals directly included in model.

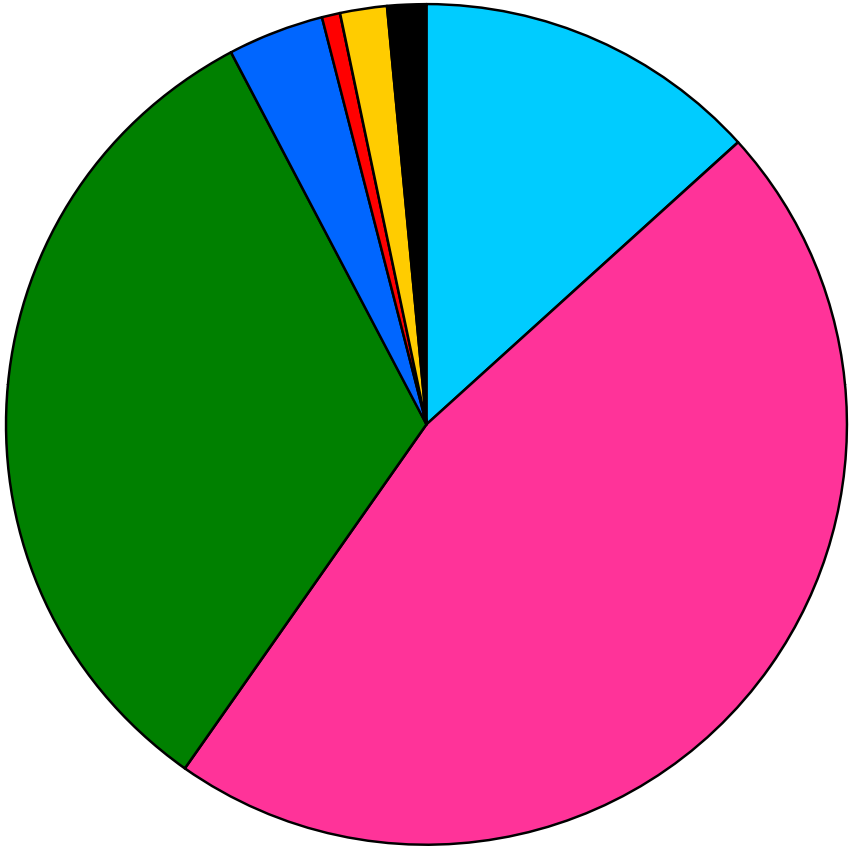
Chemicals used to evaluate optimized model.

Percent Fit to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-2

September 2008



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

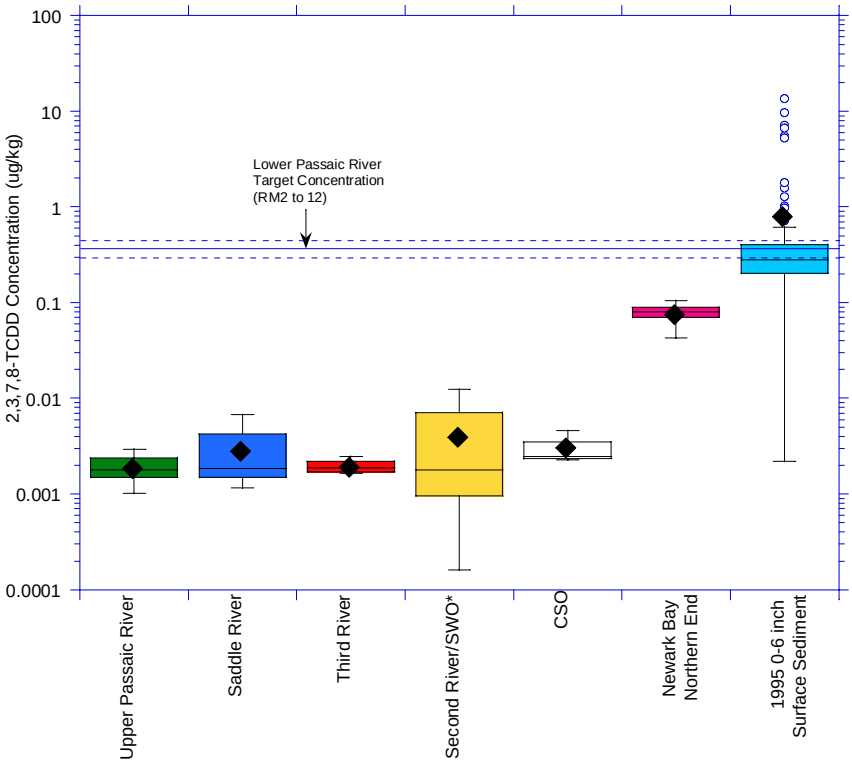
Solid Contribution to the Lower Passaic River for the Length-Weighted Average Scenario

Lower Passaic River Restoration Project

Figure 19-3

September 2008

Source Concentration of 2,3,7,8-TCDD



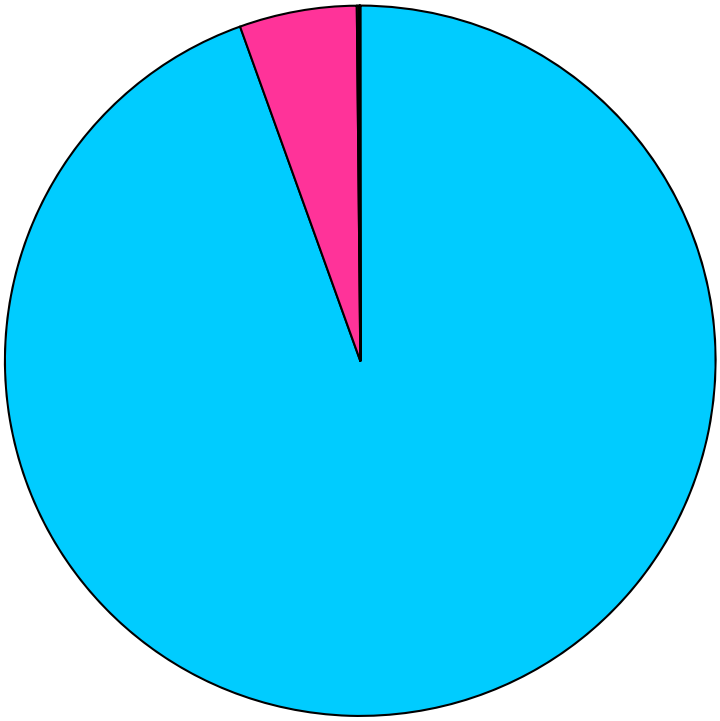
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for 2,3,7,8-TCDD



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

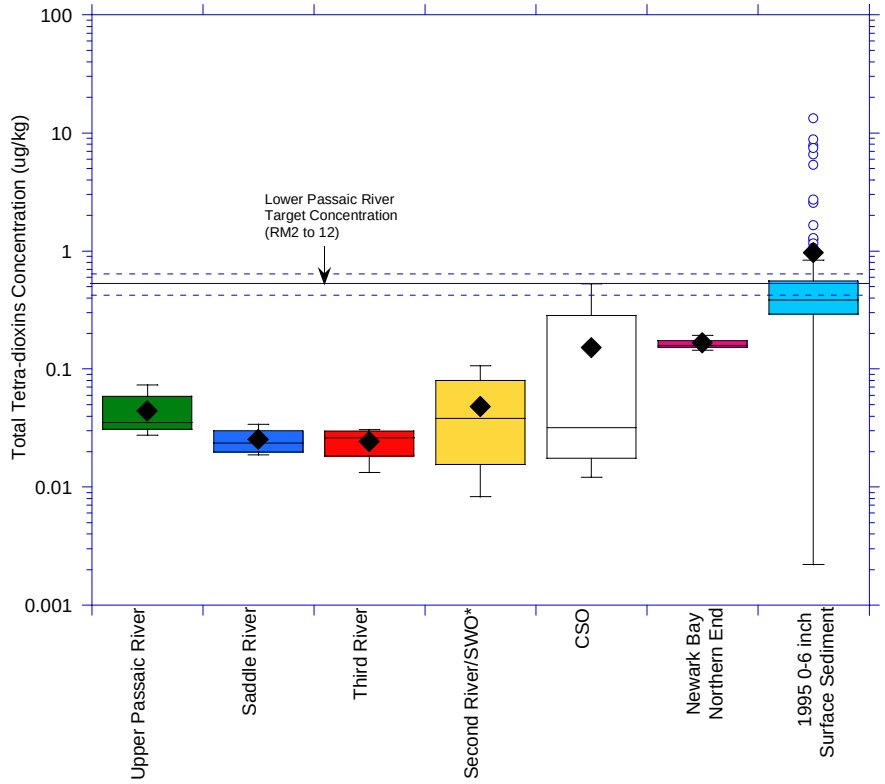
Source Concentration and Mass Balance for 2,3,7,8-TCDD

Lower Passaic River Restoration Project

Figure 19-4

September 2008

Source Concentration of Total Tetra-dioxins



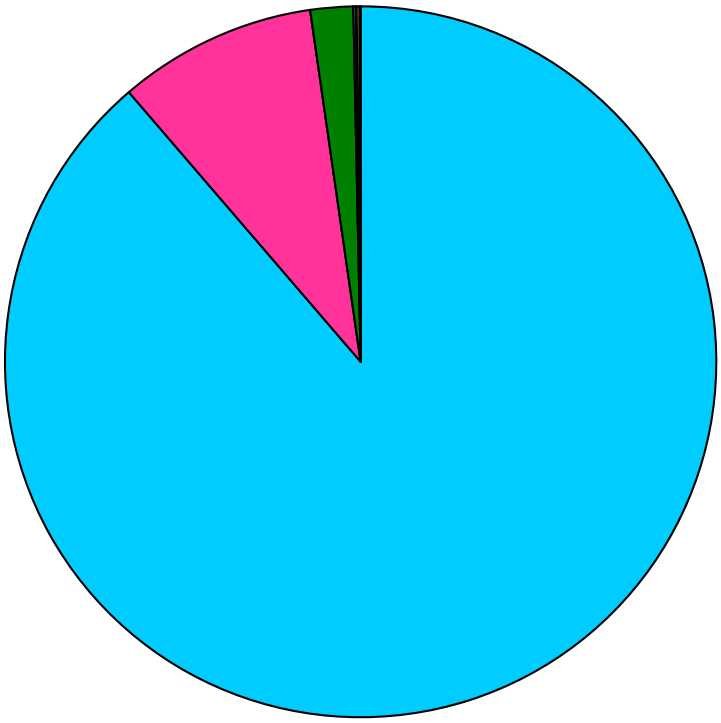
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Total Tetra-dioxins



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

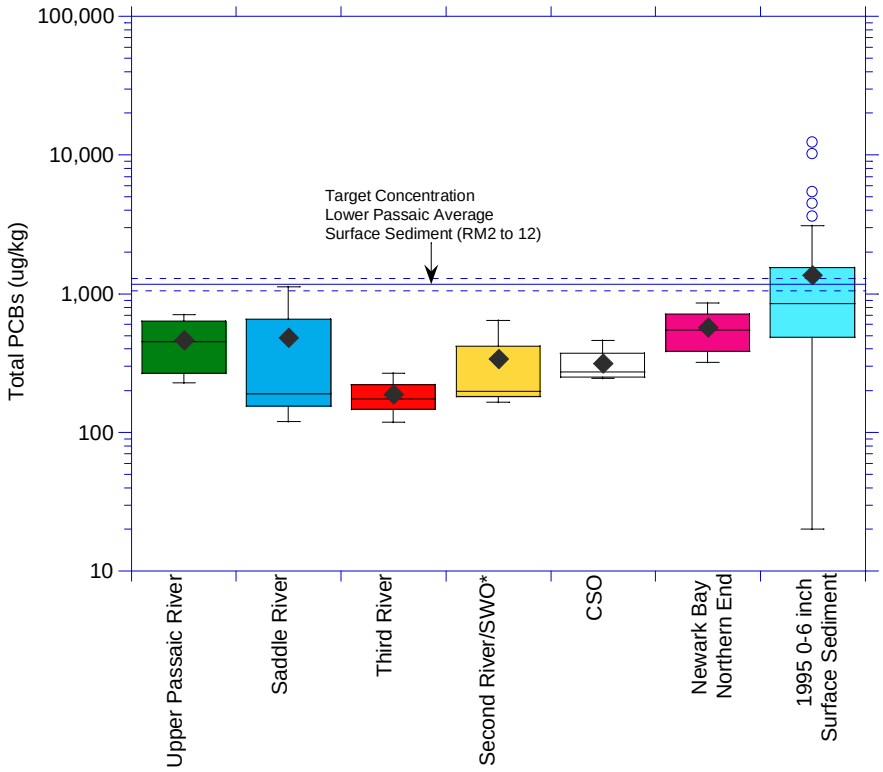
Source Concentration and Mass Balance for Total Tetra-dioxins

Lower Passaic River Restoration Project

Figure 19-5

September 2008

Source Concentration of Total PCBs



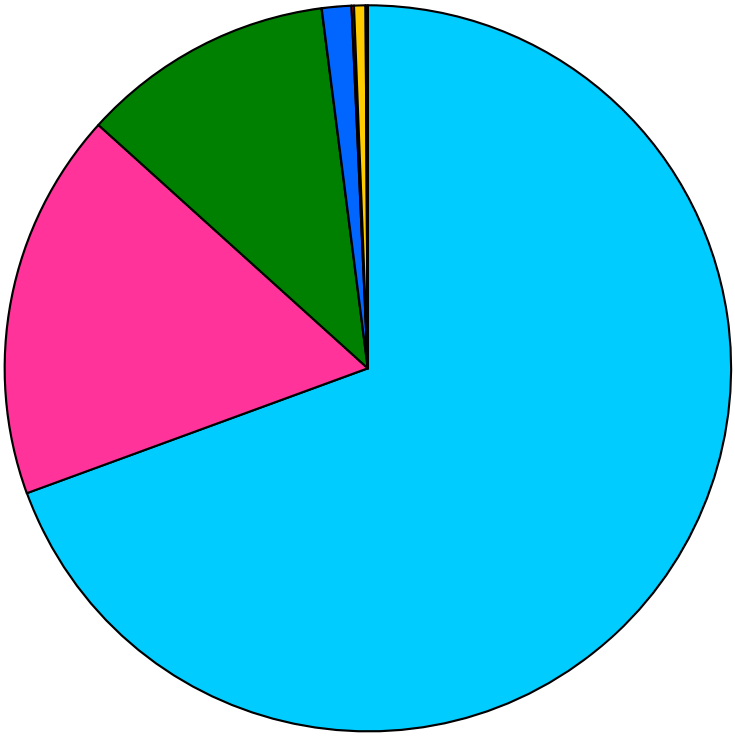
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Total PCBs



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

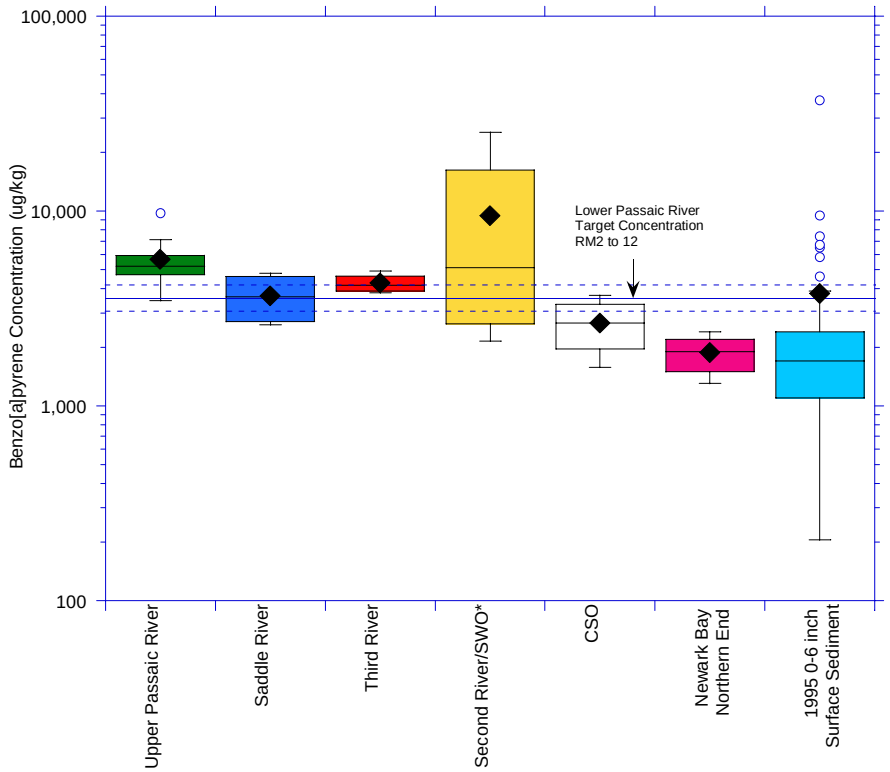
Source Concentration and Mass Balance for Total PCBs

Lower Passaic River Restoration Project

Figure 19-6

September 2008

Source Concentration of Benzo[a]pyrene



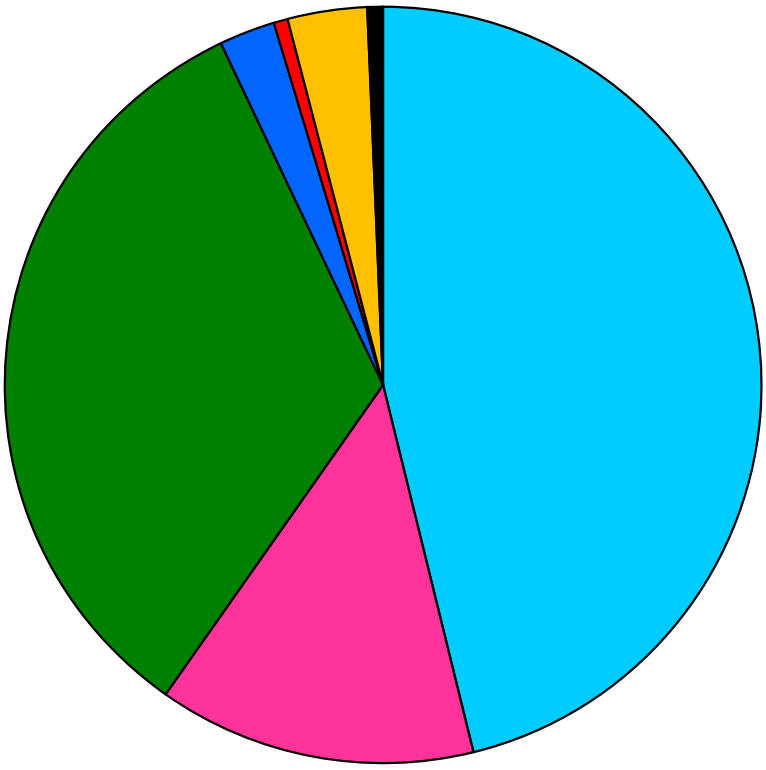
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Benzo[a]pyrene



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

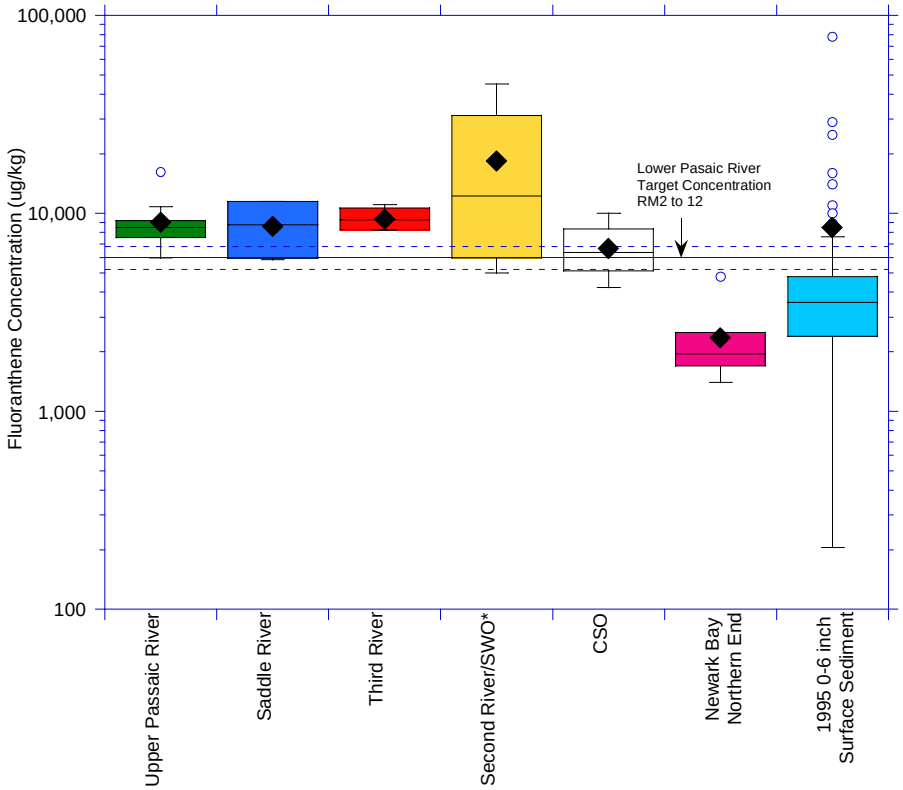
Source Concentration and Mass Balance for Benzo[a]pyrene

Lower Passaic River Restoration Project

Figure 19-7

September 2008

Source Concentration of Fluoranthene



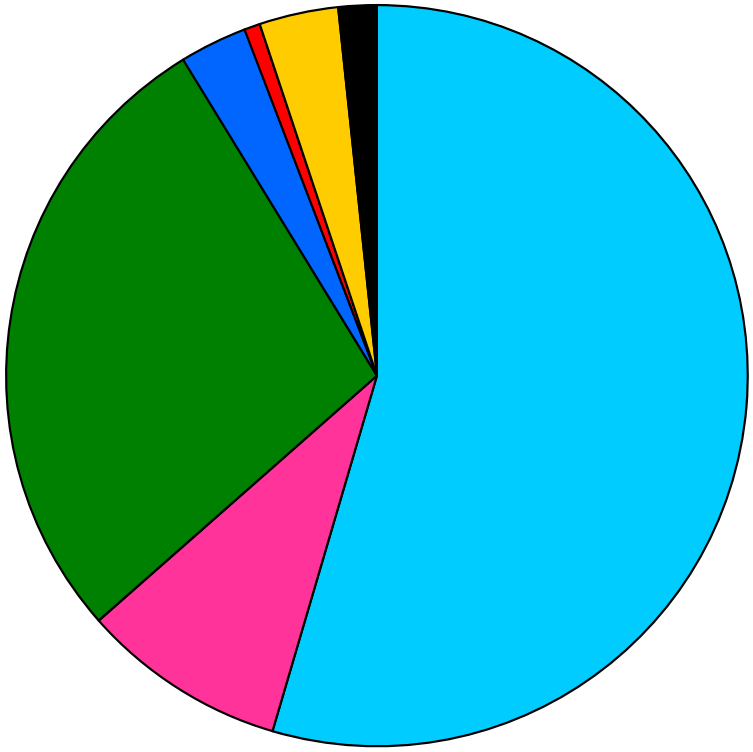
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Fluoranthene



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

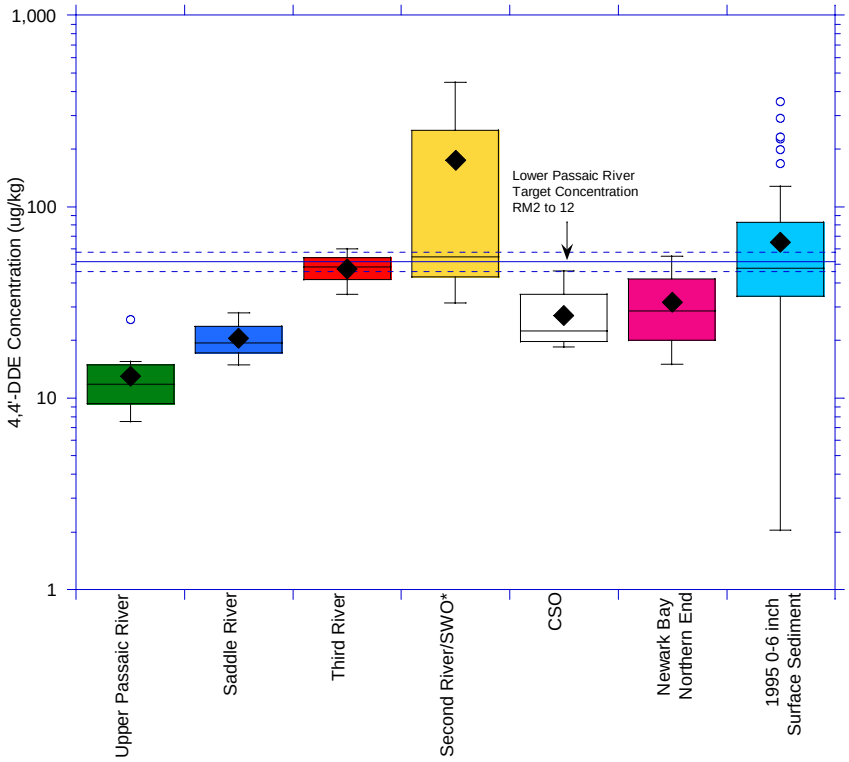
Source Concentration and Mass Balance for Fluoranthene

Lower Passaic River Restoration Project

Figure 19-8

September 2008

Source Concentration of 4,4'-DDE



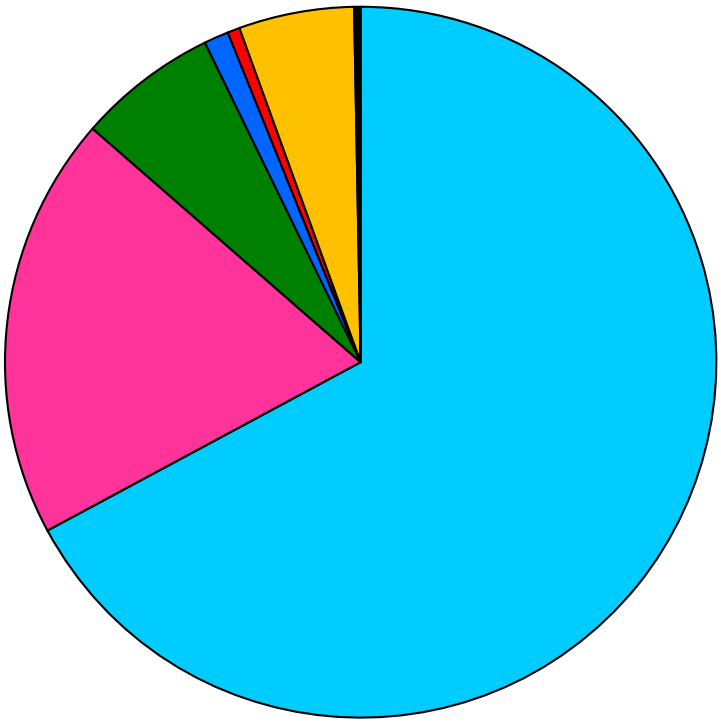
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for 4,4'-DDE



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

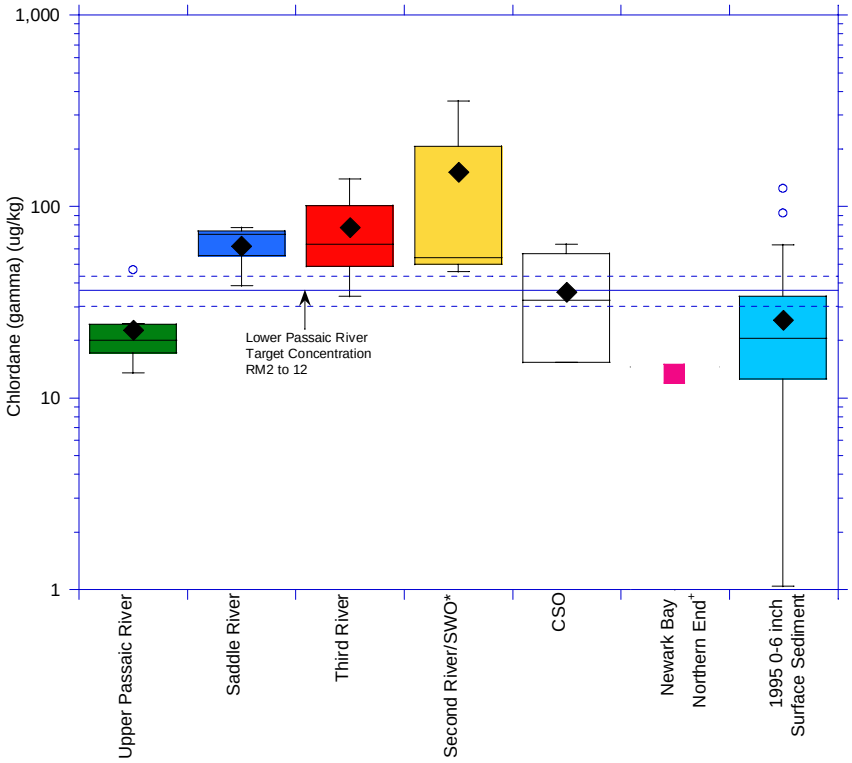
Source Concentration and Mass Balance for 4,4'-DDE

Lower Passaic River Restoration Project

Figure 19-9

September 2008

Source Concentration of Chlordane (gamma, trans)



Legend

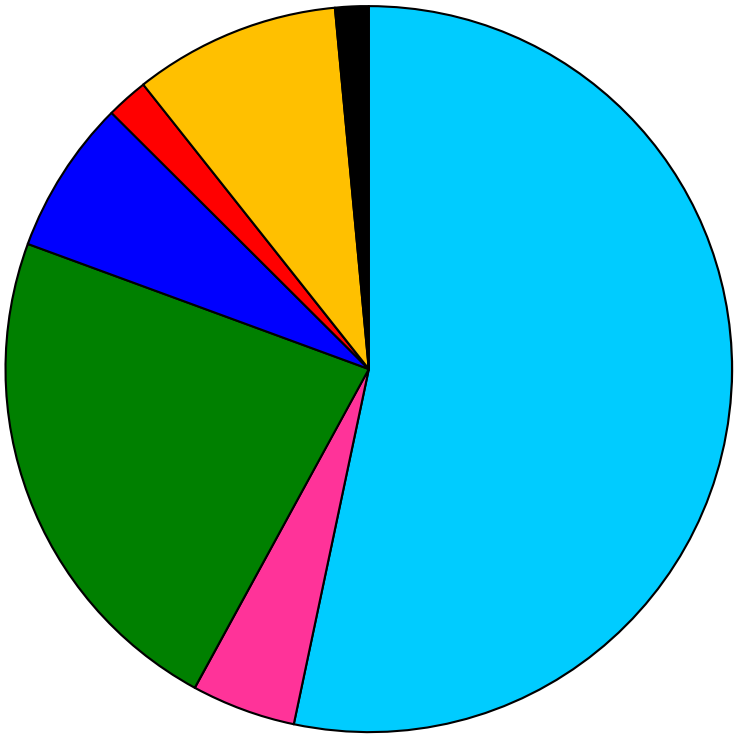
- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

+Robinson (2002)

Mass Balance for Chlordane (gamma)



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

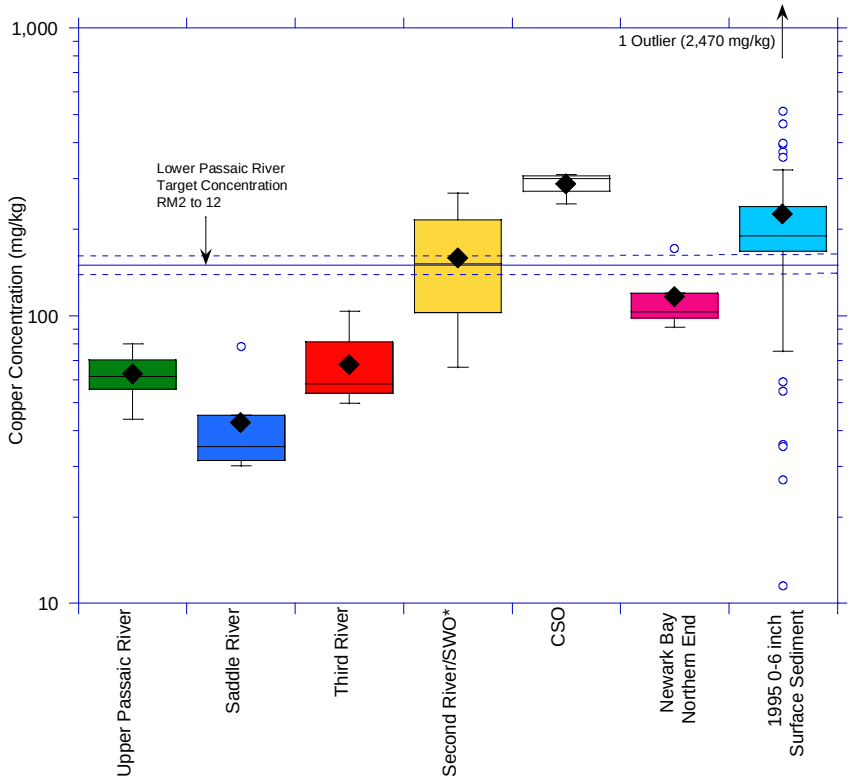
Source Concentration and Mass Balance for Chlordane (gamma)

Lower Passaic River Restoration Project

Figure 19-10

September 2008

Source Concentration of Copper



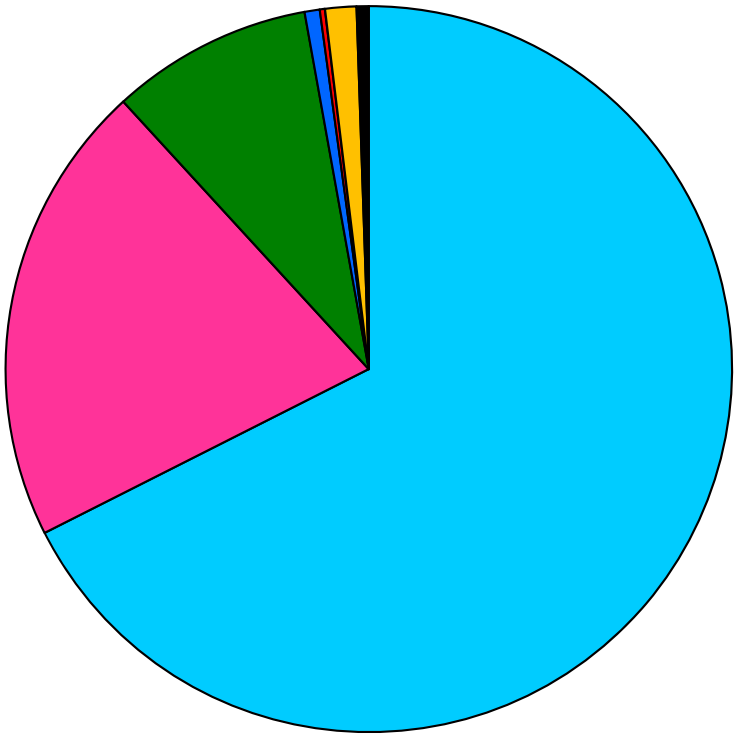
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Copper



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

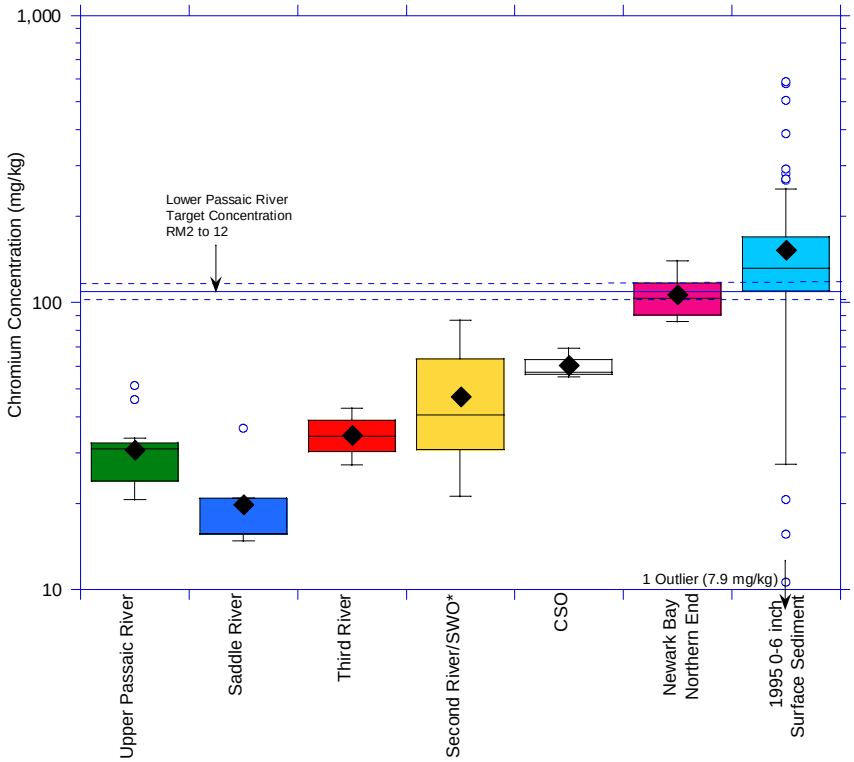
Source Concentration and Mass Balance for Copper

Lower Passaic River Restoration Project

Figure 19-11

September 2008

Source Concentration of Chromium



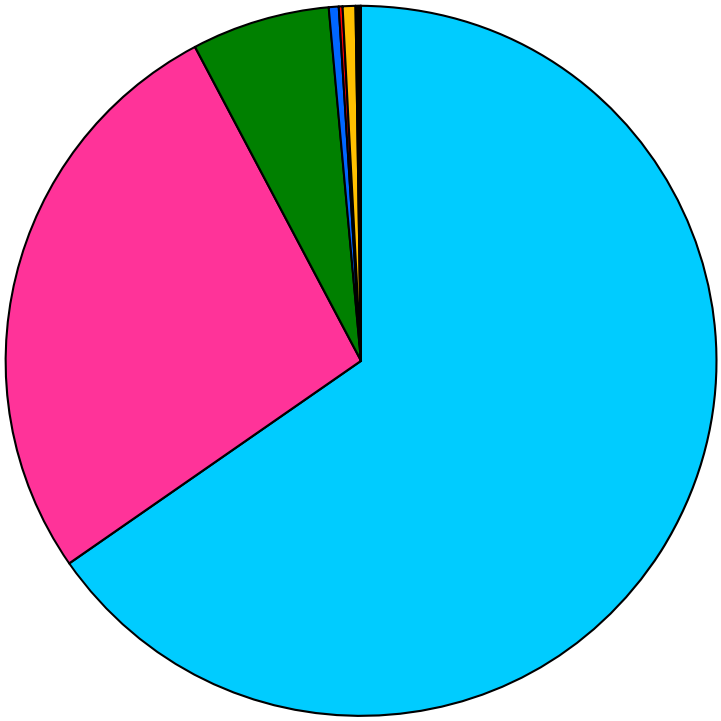
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Chromium



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

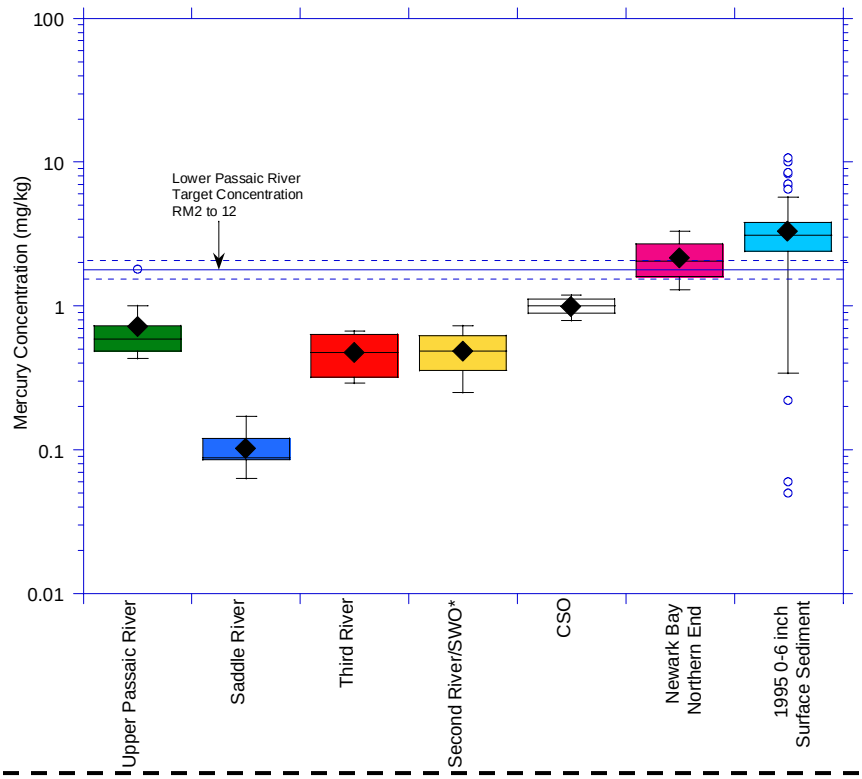
Source Concentration and Mass Balance for Chromium

Lower Passaic River Restoration Project

Figure 19-12

September 2008

Source Concentration of Mercury



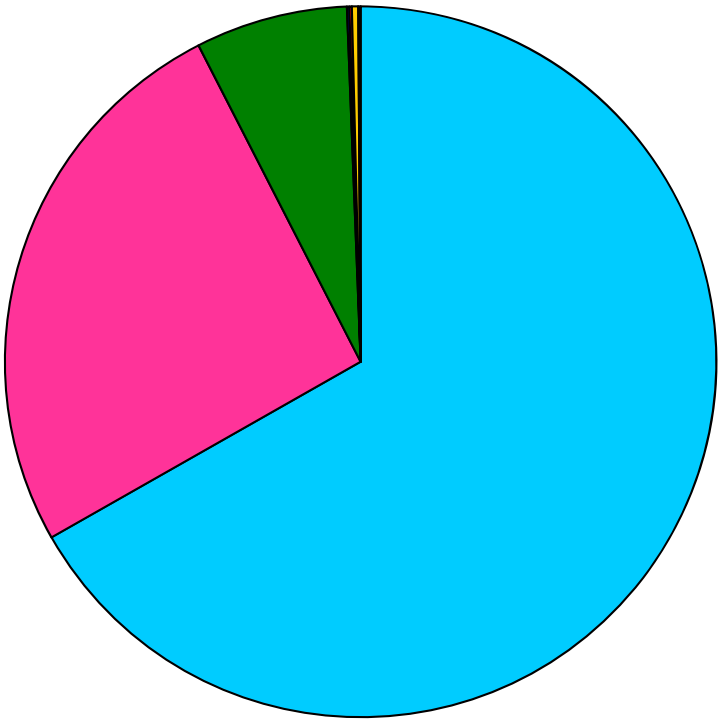
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Mercury



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

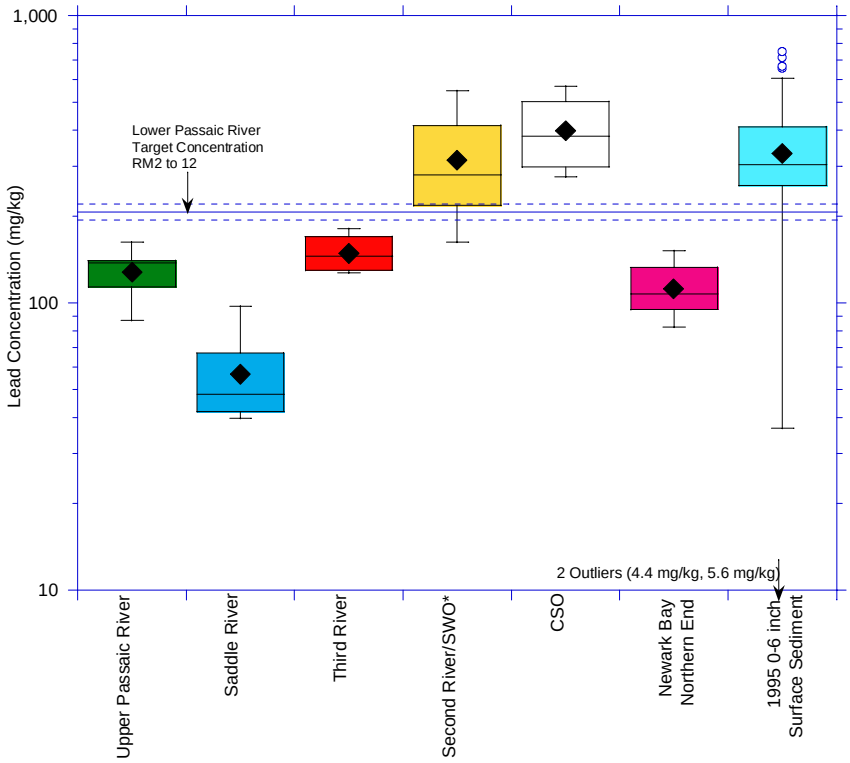
Source Concentration and Mass Balance for Mercury

Lower Passaic River Restoration Project

Figure 19-13

September 2008

Source Concentration of Lead



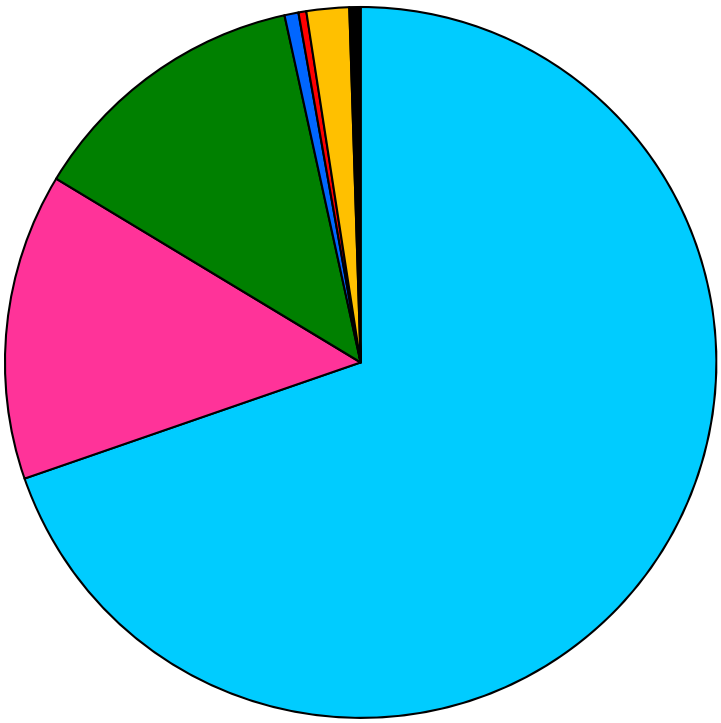
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Lead



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

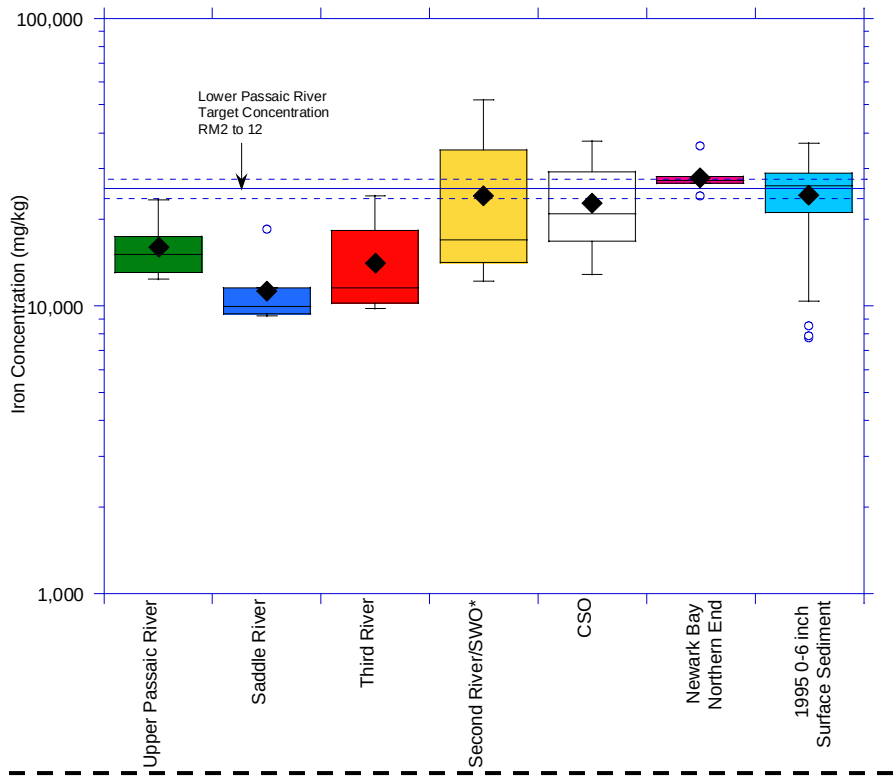
Source Concentration and Mass Balance for Lead

Lower Passaic River Restoration Project

Figure 19-14

September 2008

Source Concentration of Iron



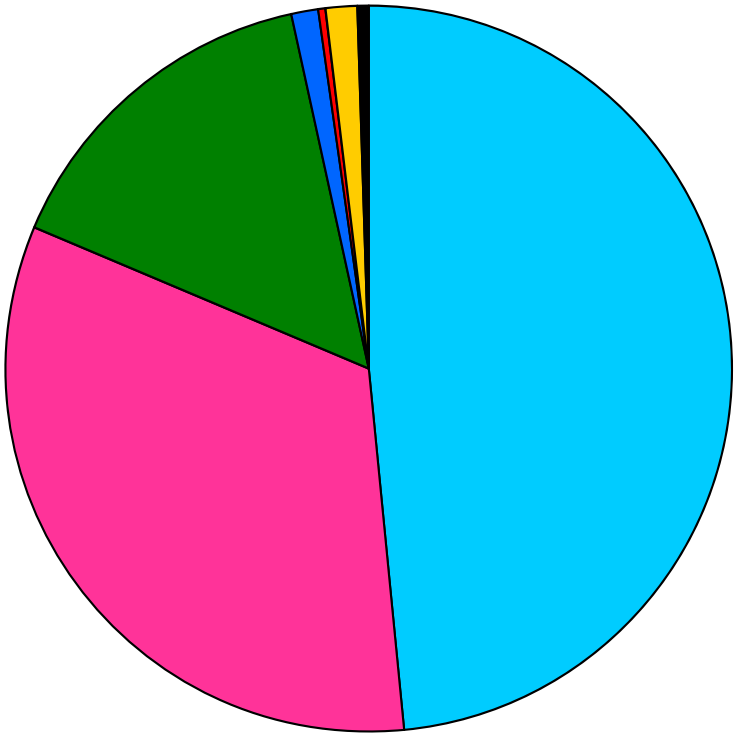
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Iron



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

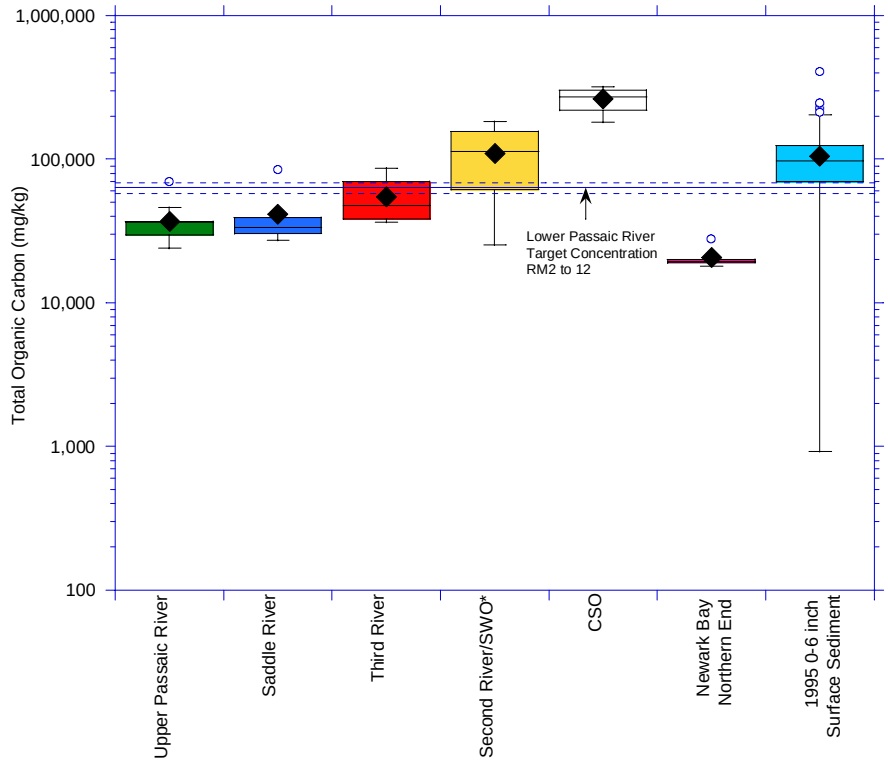
Source Concentration and Mass Balance for Iron

Lower Passaic River Restoration Project

Figure 19-15

September 2008

Source Concentration of Total Organic Carbon



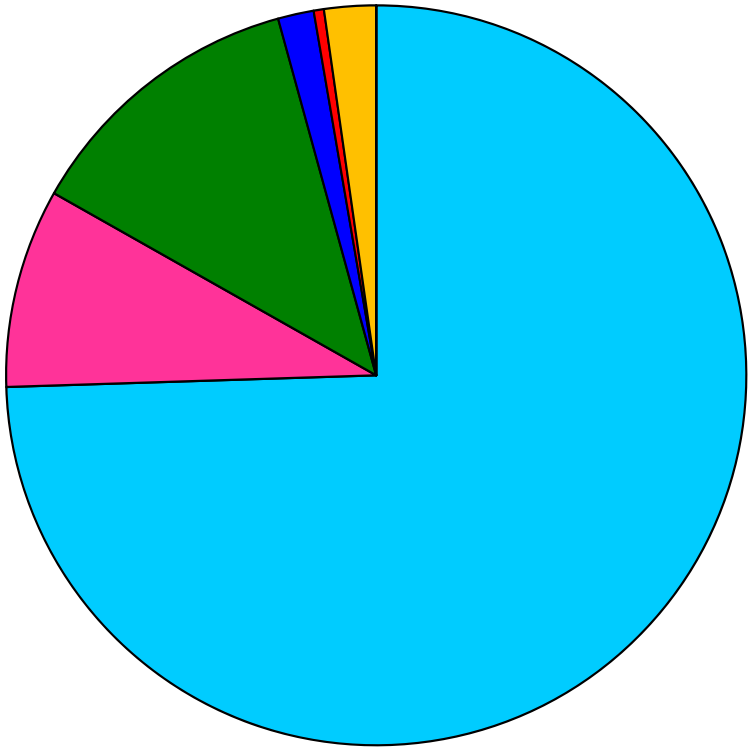
Legend

- Maximum
- 75% quartile
- Median
- 25% quartile
- Minimum
- Outliers
- Mean ± 2 standard errors
- Average

Notes

*: Second River Results are used to represent the SWOs. (see Chapter 18 for explanation)

Mass Balance for Total Organic Carbon



Legend

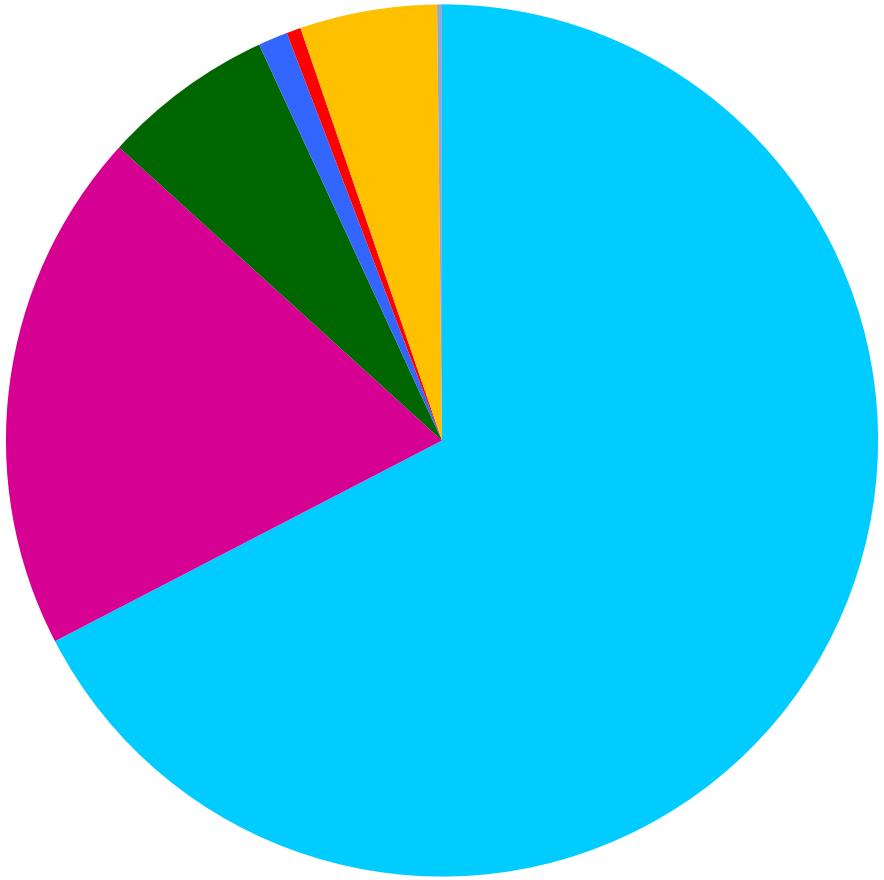
- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

Source Concentration and Mass Balance for Total Organic Carbon

Lower Passaic River Restoration Project

Figure 19-16

September 2008



Legend

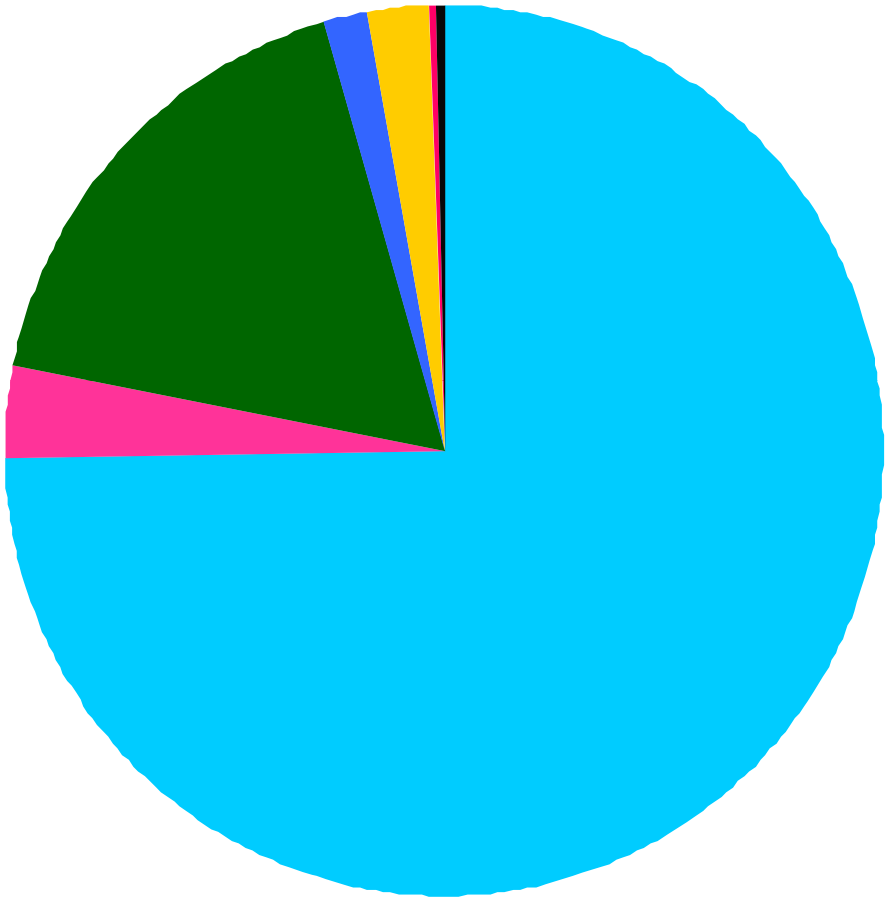
- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

Dieldrin Contribution to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-17

September 2008



Legend

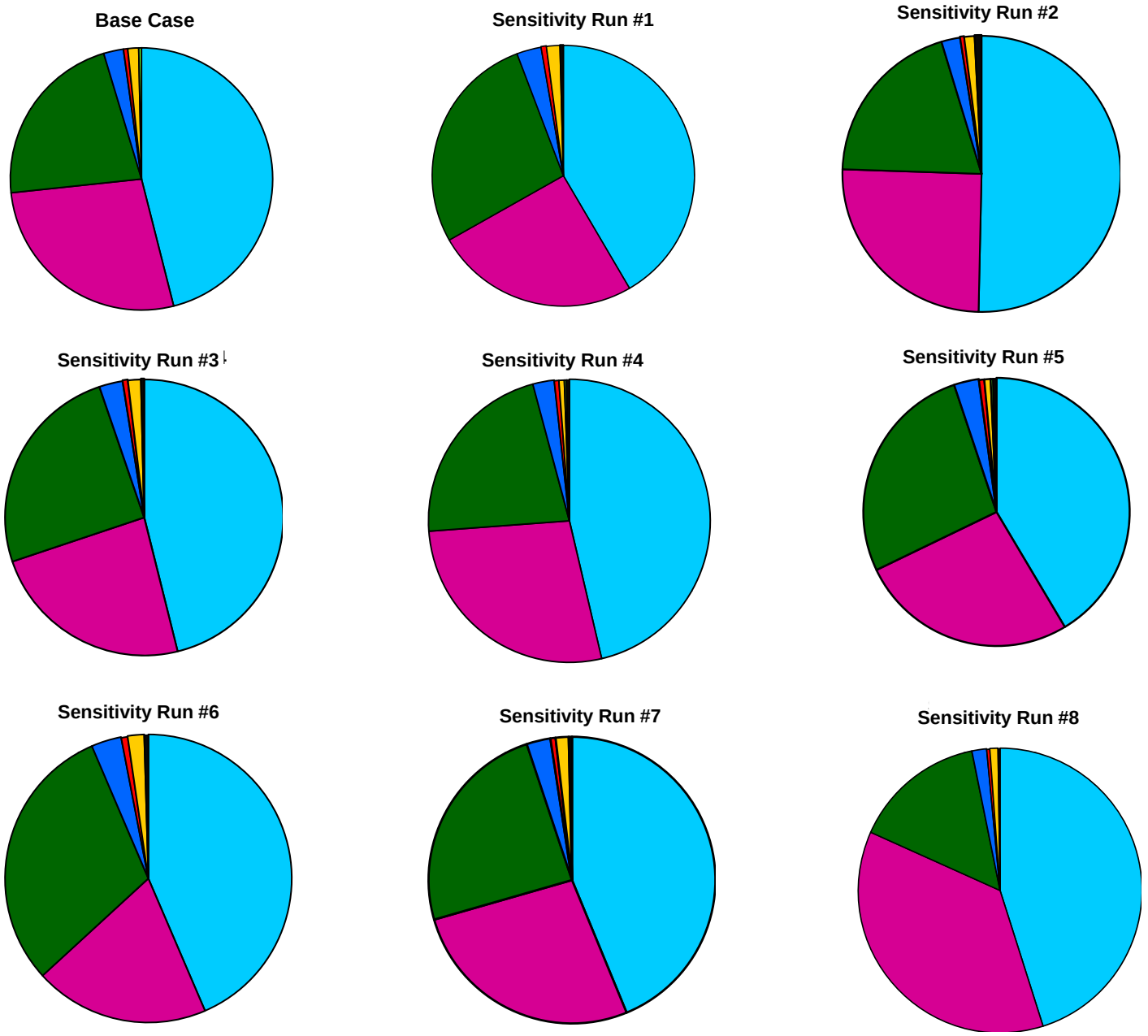
- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End
- Resuspension (Lower Passaic River)

Phenanthrene Contribution to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-18

September 2008

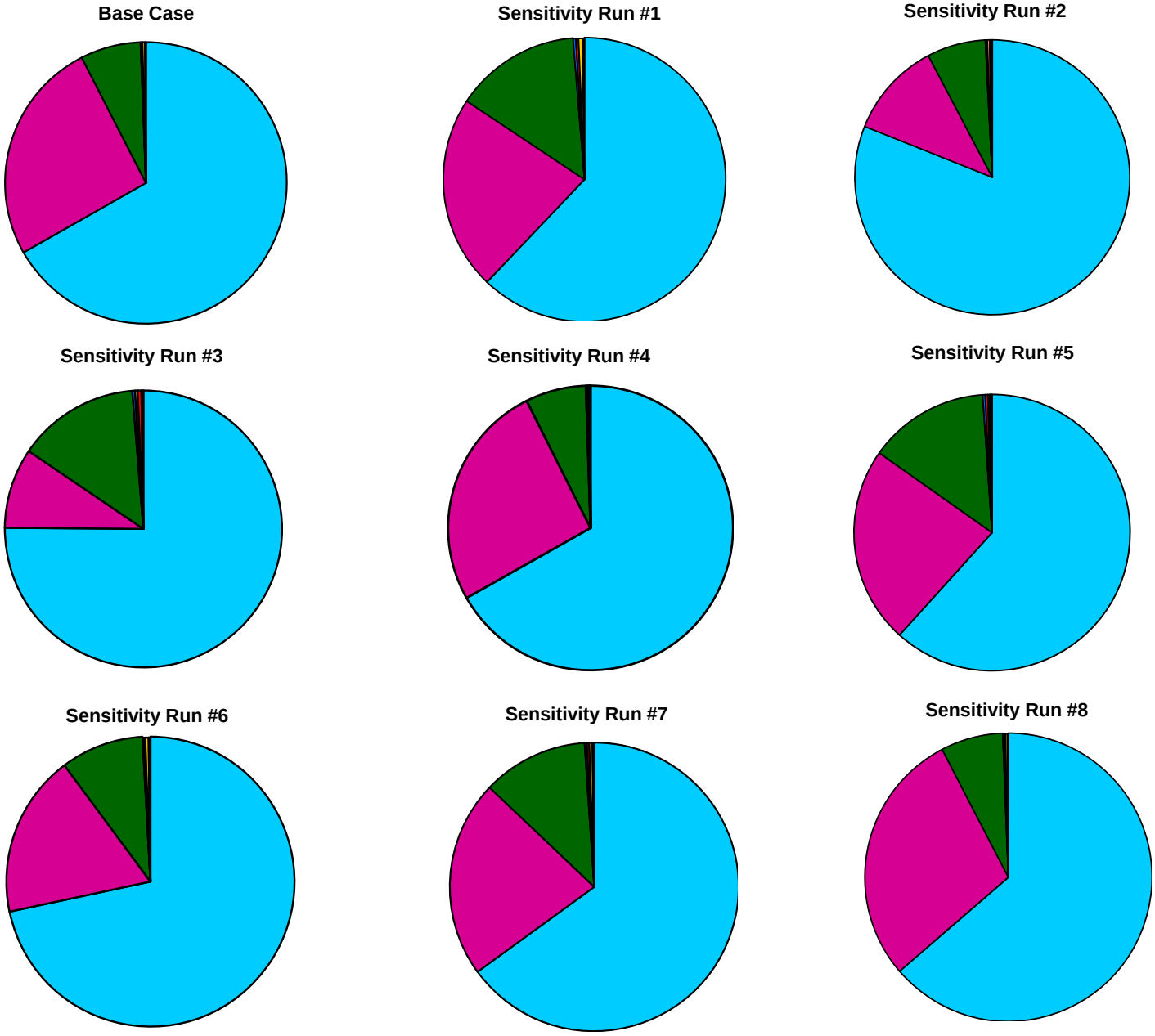


Sensitivity Analysis Results for Solid Contribution to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-19

September 2008



Legend

- Upper Passaic River
- Saddle River
- Second River/SWO
- Third River
- CSO
- Newark Bay Northern End Resuspension (Lower Passaic River)
- SWO (Runs #4 and #5 Only)

Note: For Sensitivity Runs #4 and #5 SWOs were separately calculated from Second River (see Section 19.3)

US Army Corp of Engineers

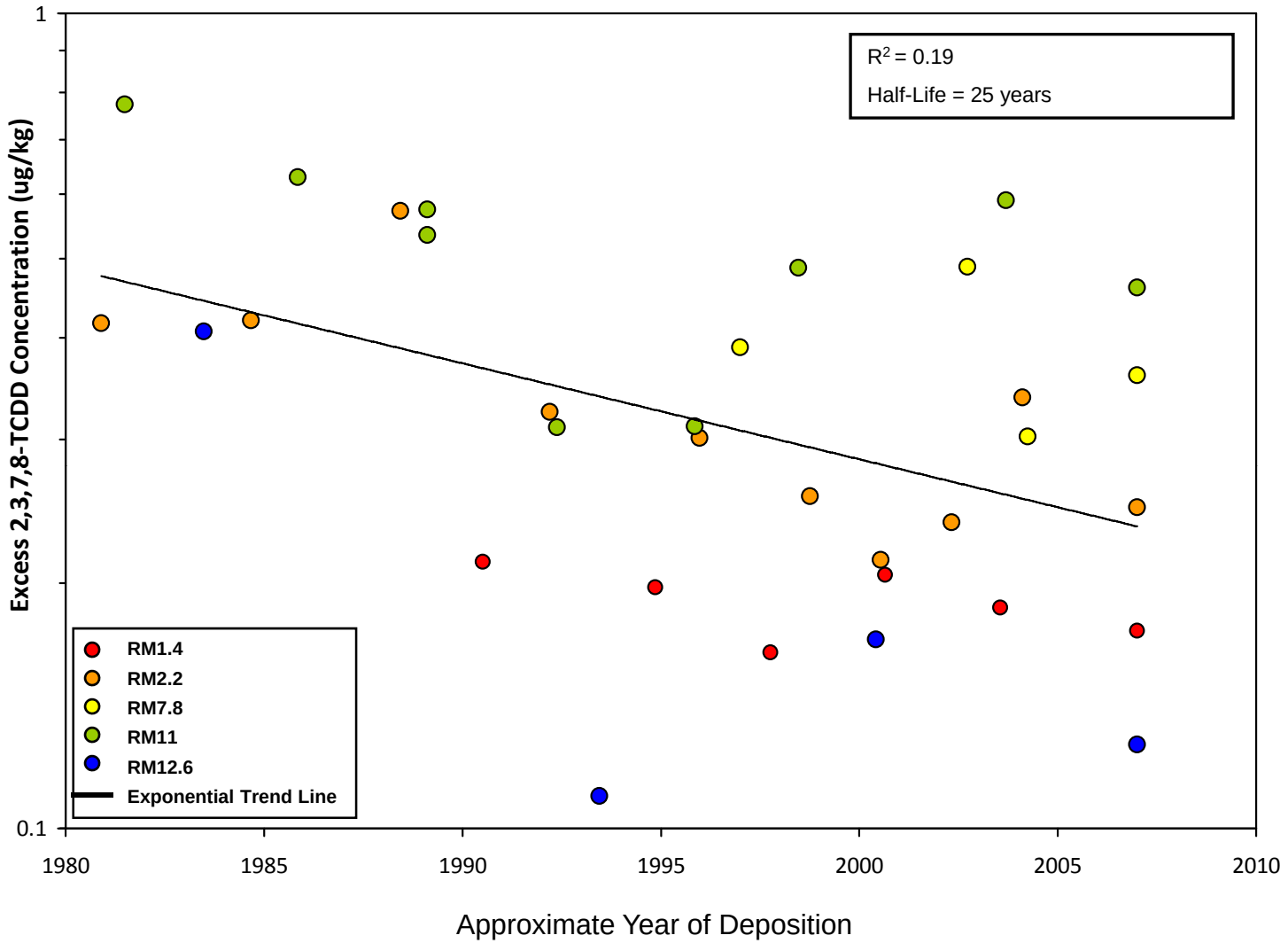
Sensitivity Analysis Results for Mercury Contribution to the Lower Passaic River

Lower Passaic River Restoration Project

Figure 19-20

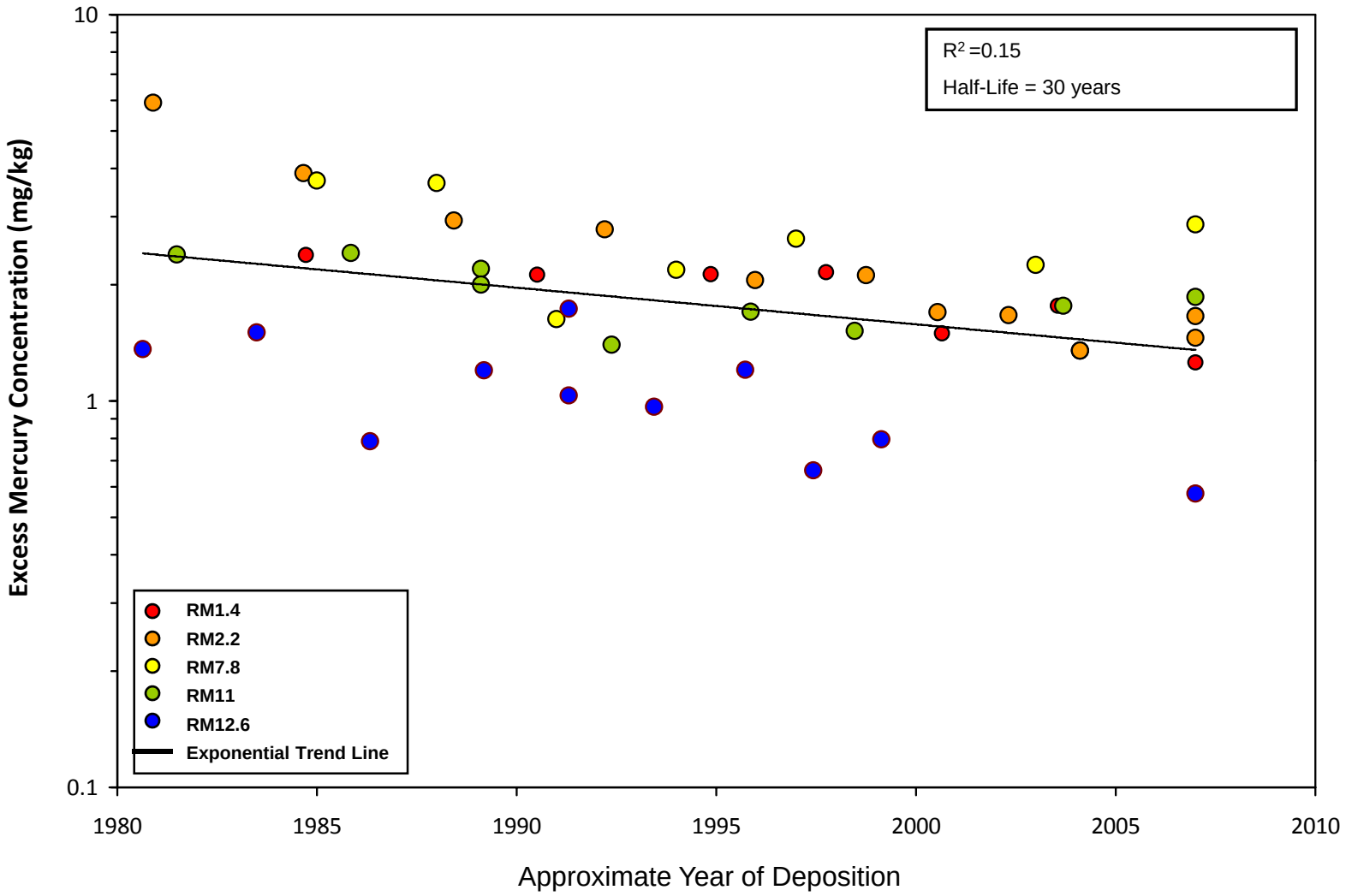
September 2008

Chapter 20 Figures



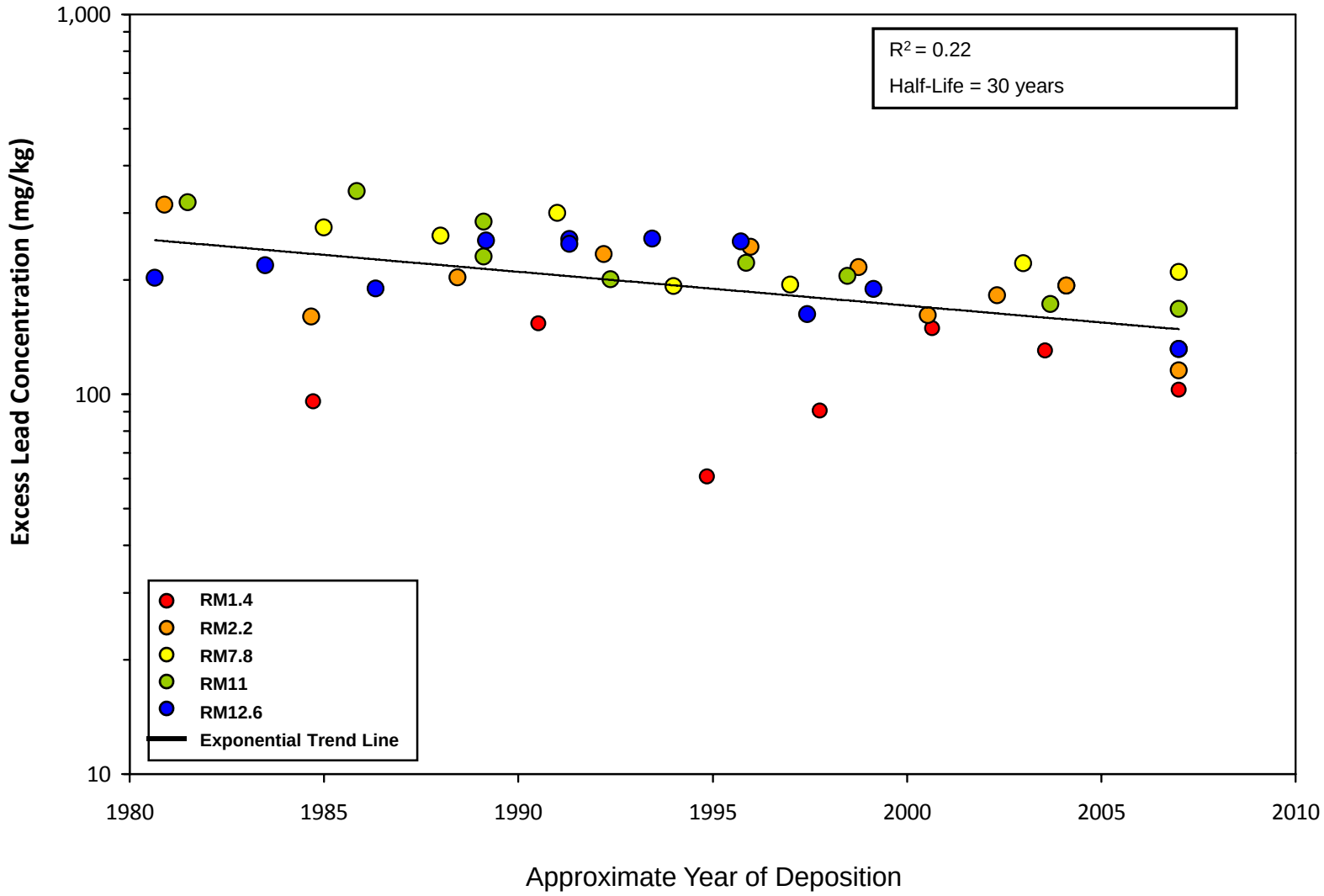
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess 2,3,7,8-TCDD Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-1 September 2008



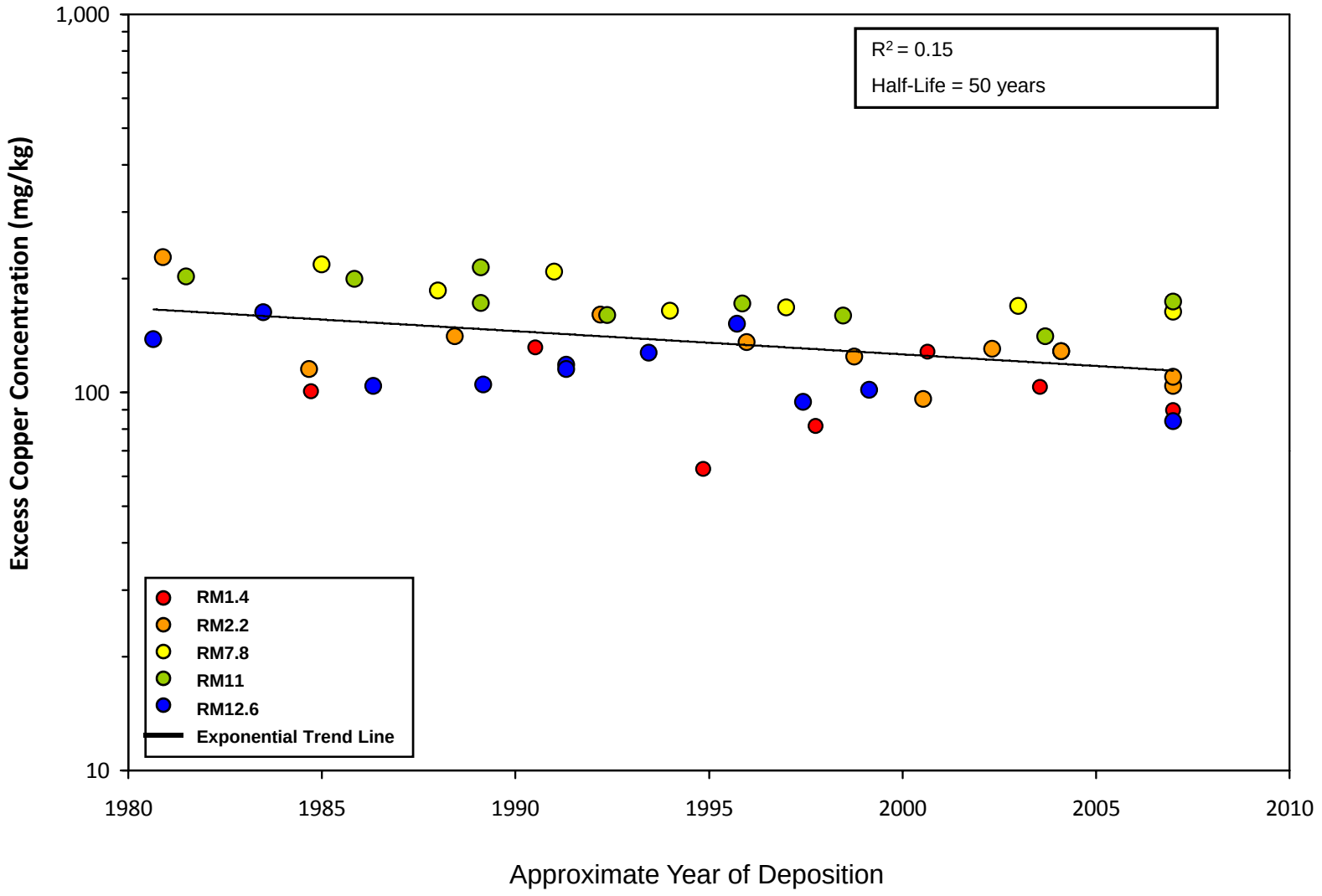
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Mercury Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-2 September 2008



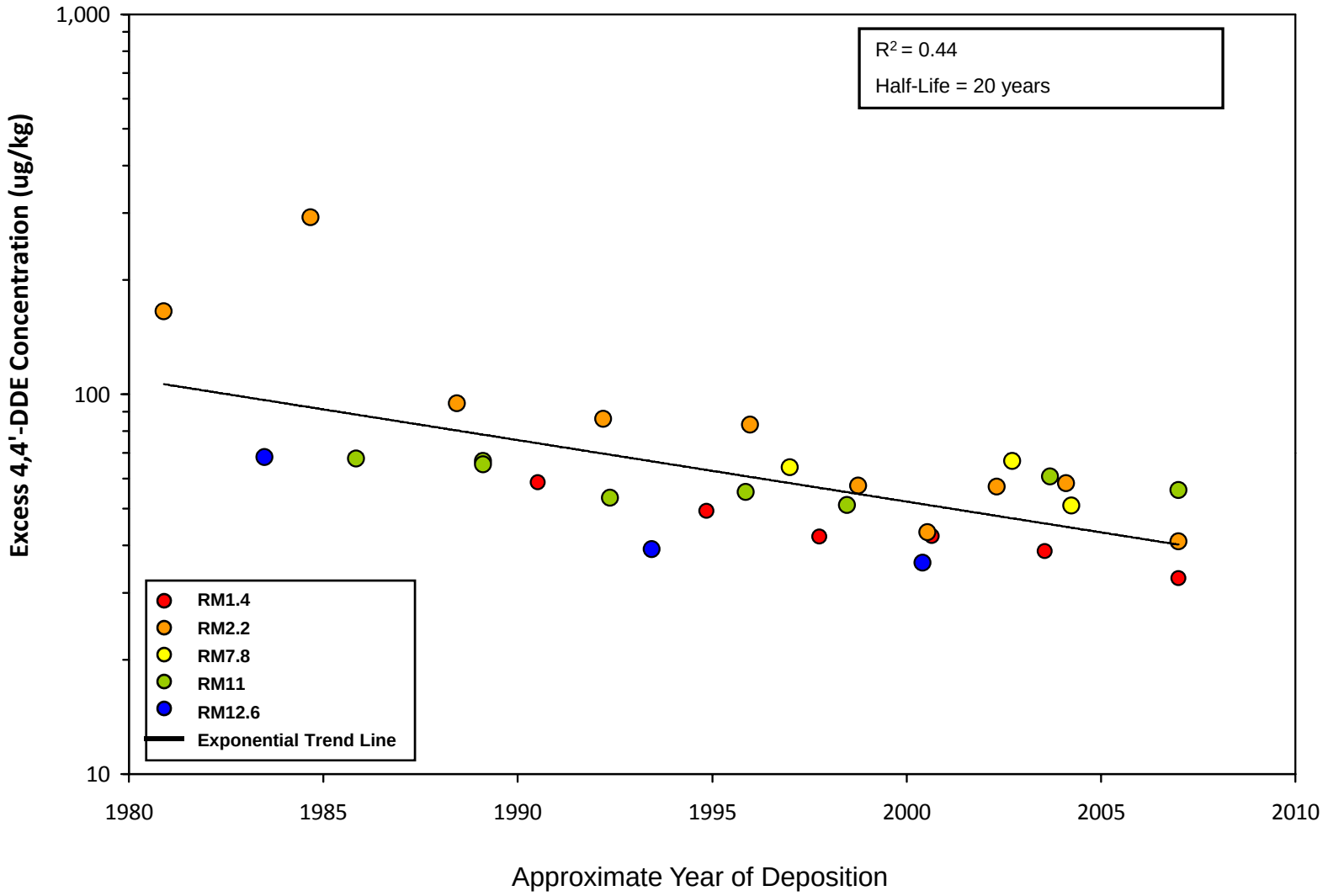
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers NJ DEP	Excess Lead Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-3 September 2008



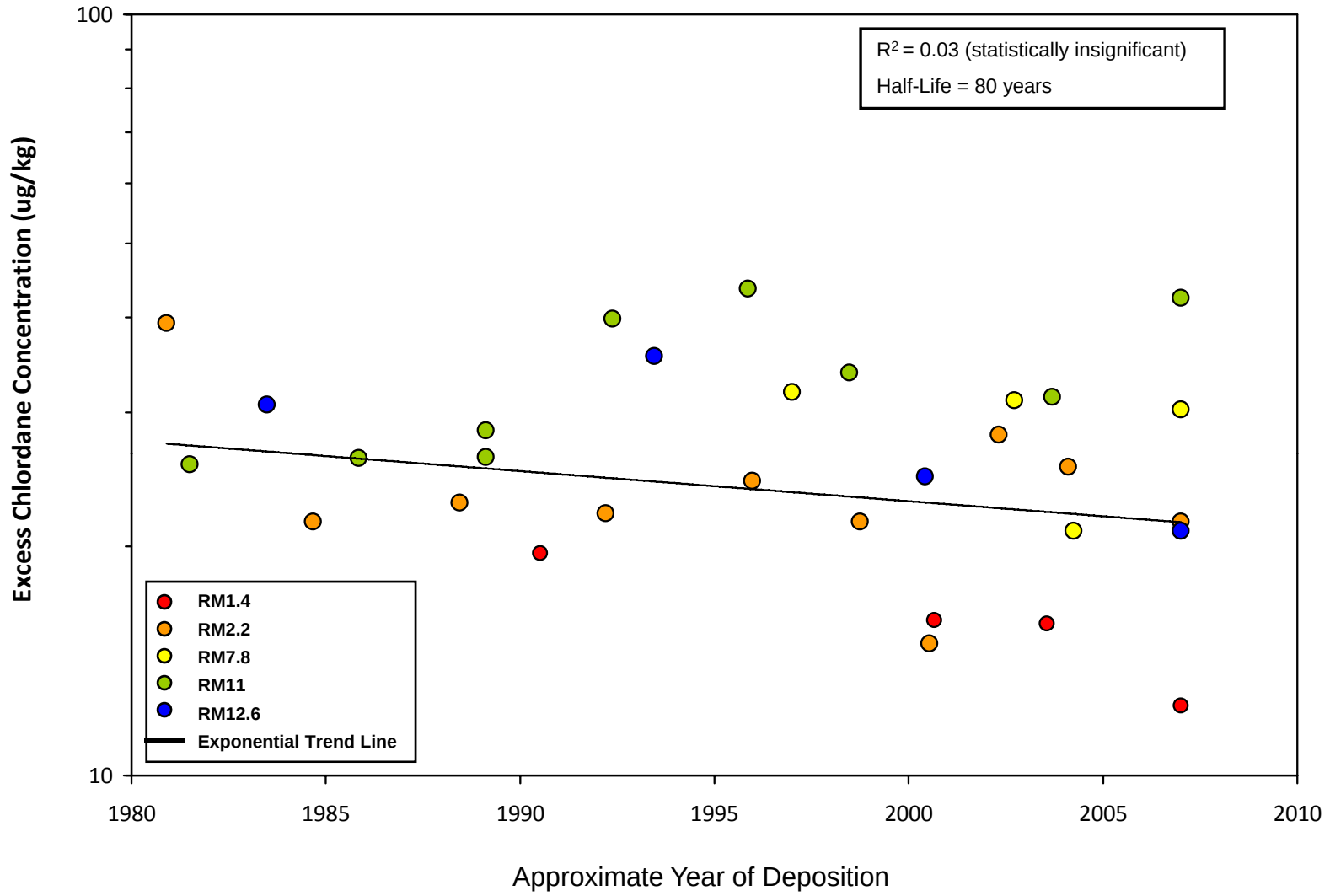
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Copper Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-4 September 2008



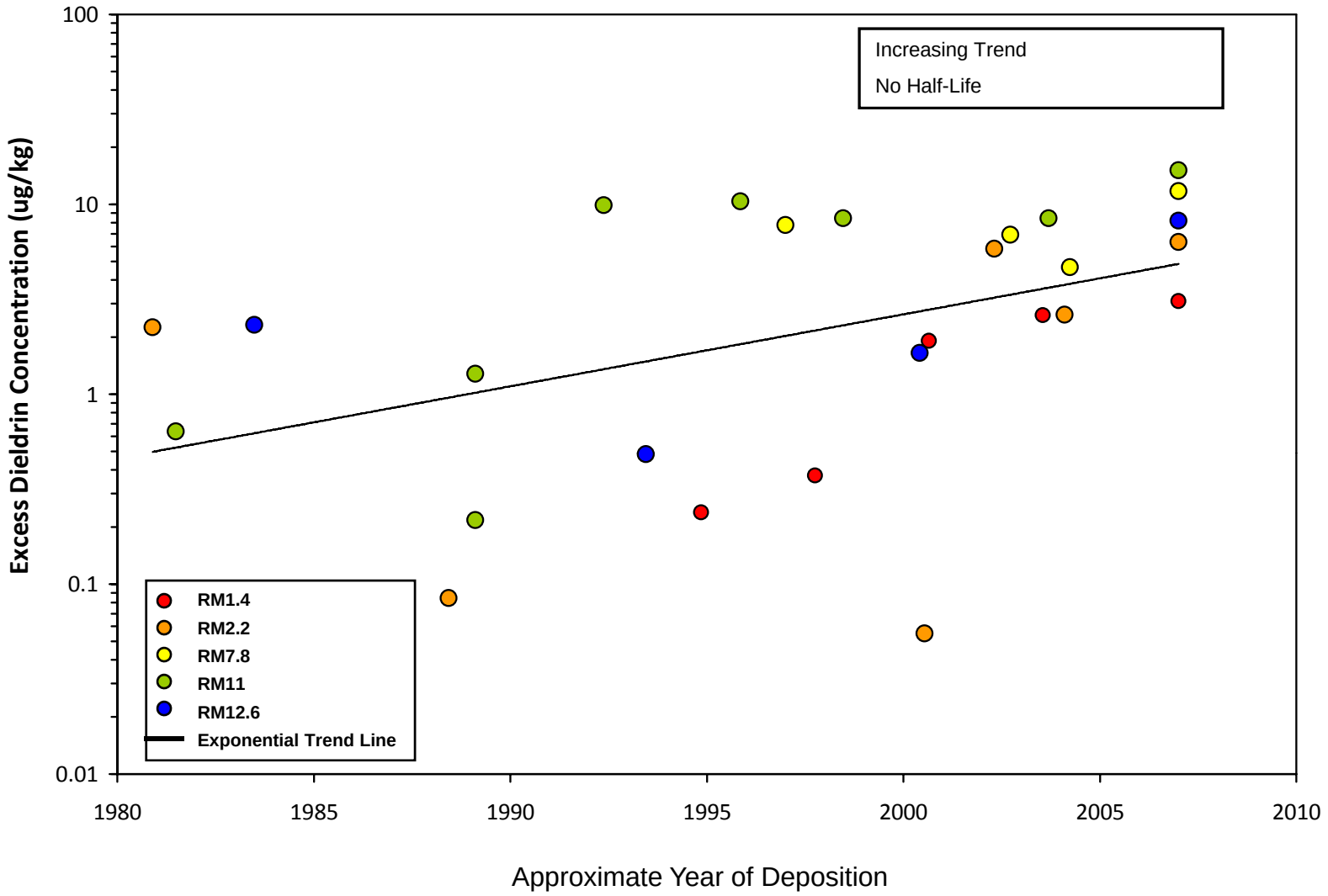
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess 4,4'-DDE Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-5 September 2008



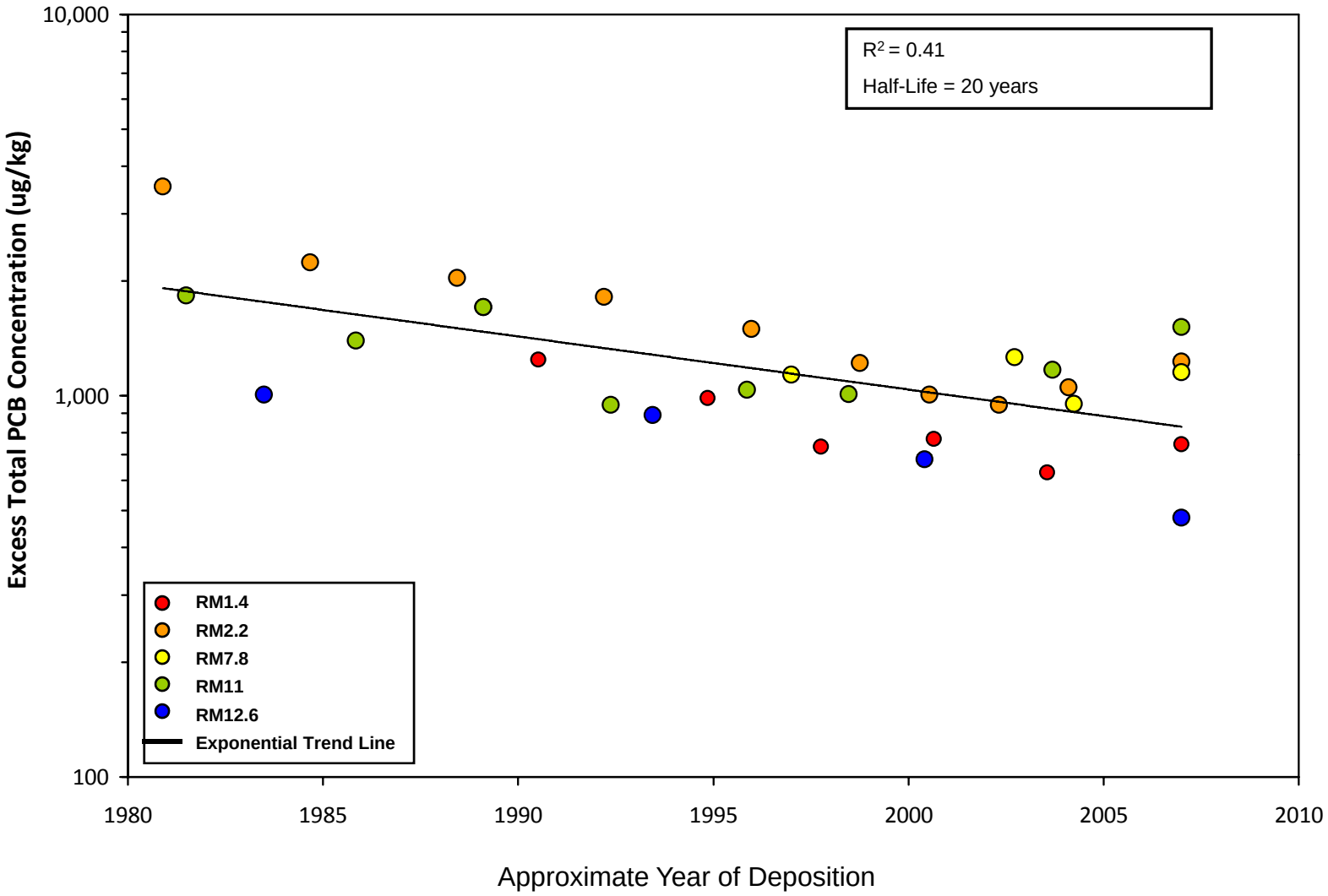
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Chlordane Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-6 September 2008



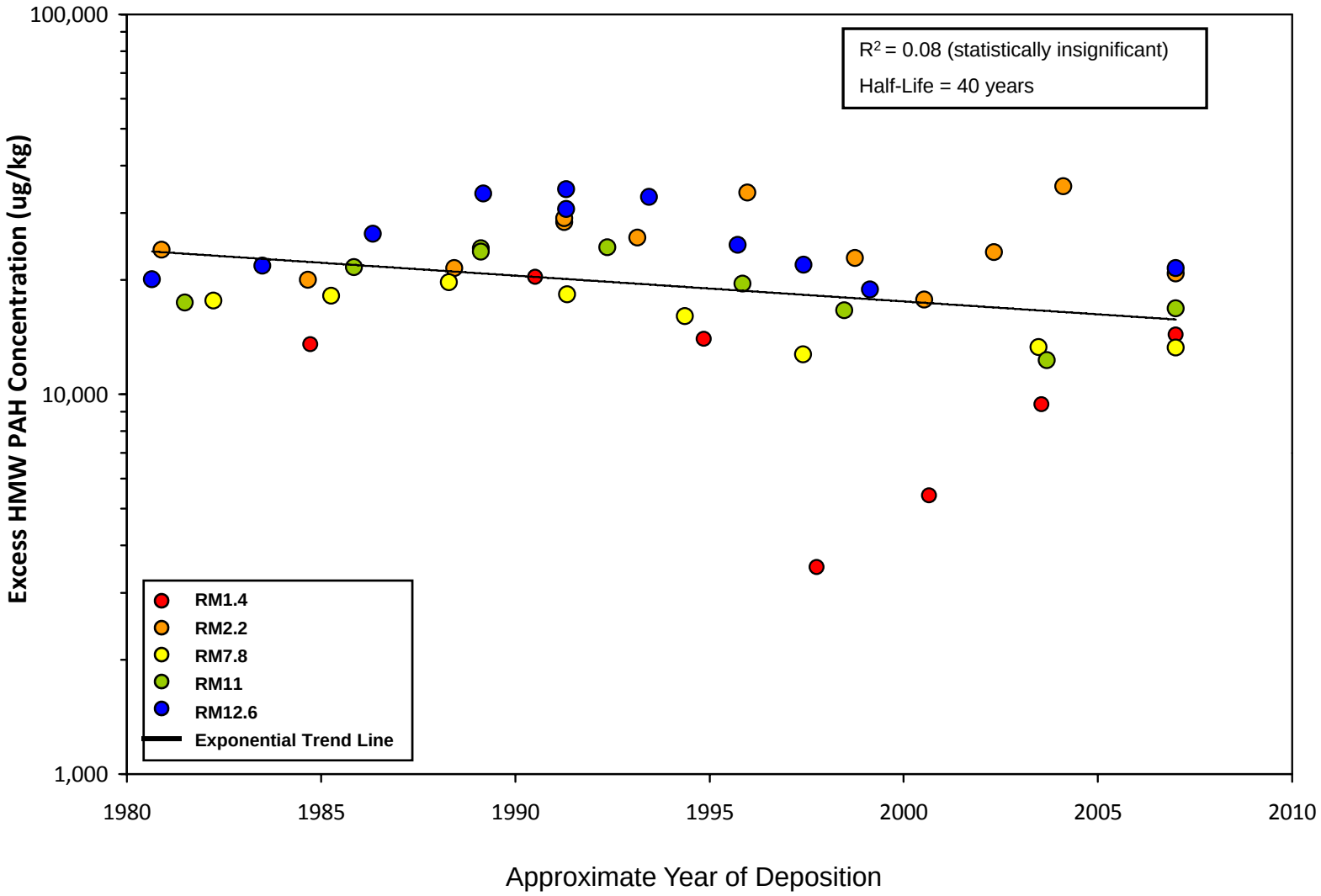
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Dieldrin Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-7 September 2008



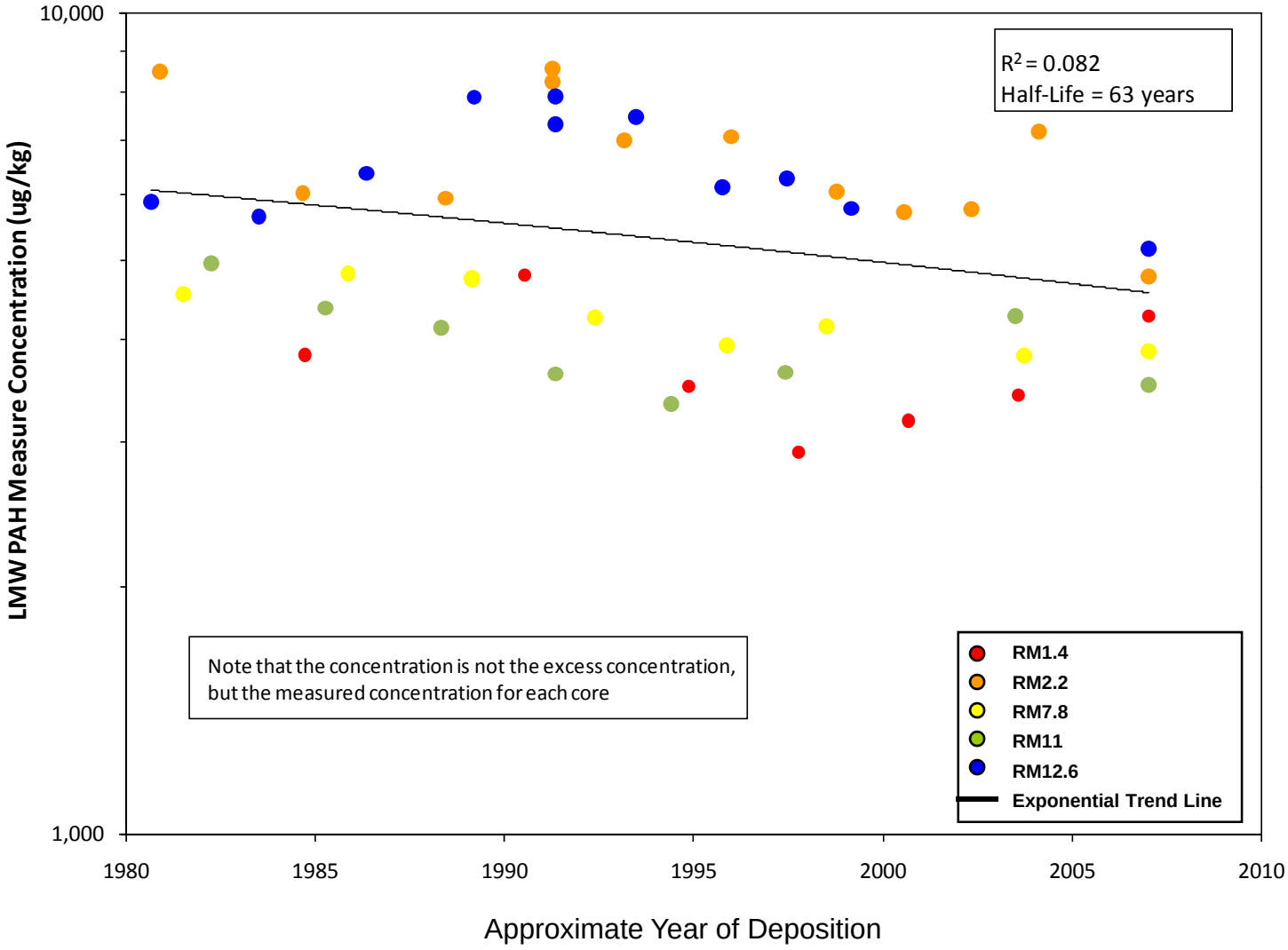
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Total PCBs Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-8 September 2008



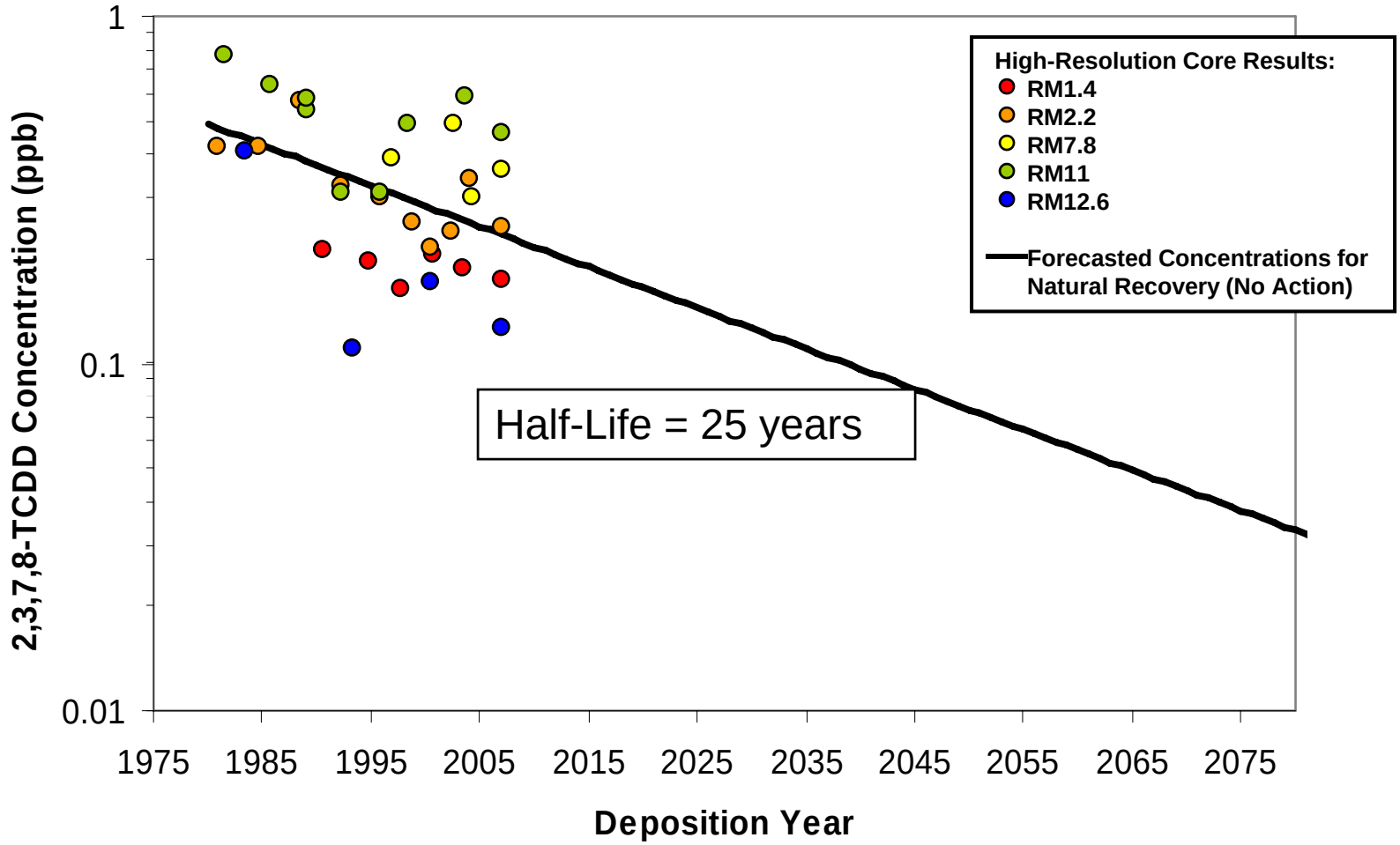
Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess High Molecular Weight PAH Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-9 September 2008



Note:
Excess concentration represents the difference between the measured concentration in the Lower Passaic River recently deposited (Be-7 bearing) samples and the baseline concentration. The excess is attributed to resuspension and Newark Bay derived loads.

US Army Corps of Engineers	Excess Low Molecular Weight PAH Concentration *vs.* Approximate Year of Deposition *Lower Passaic River Restoration Project*	Figure 20-10 September 2008

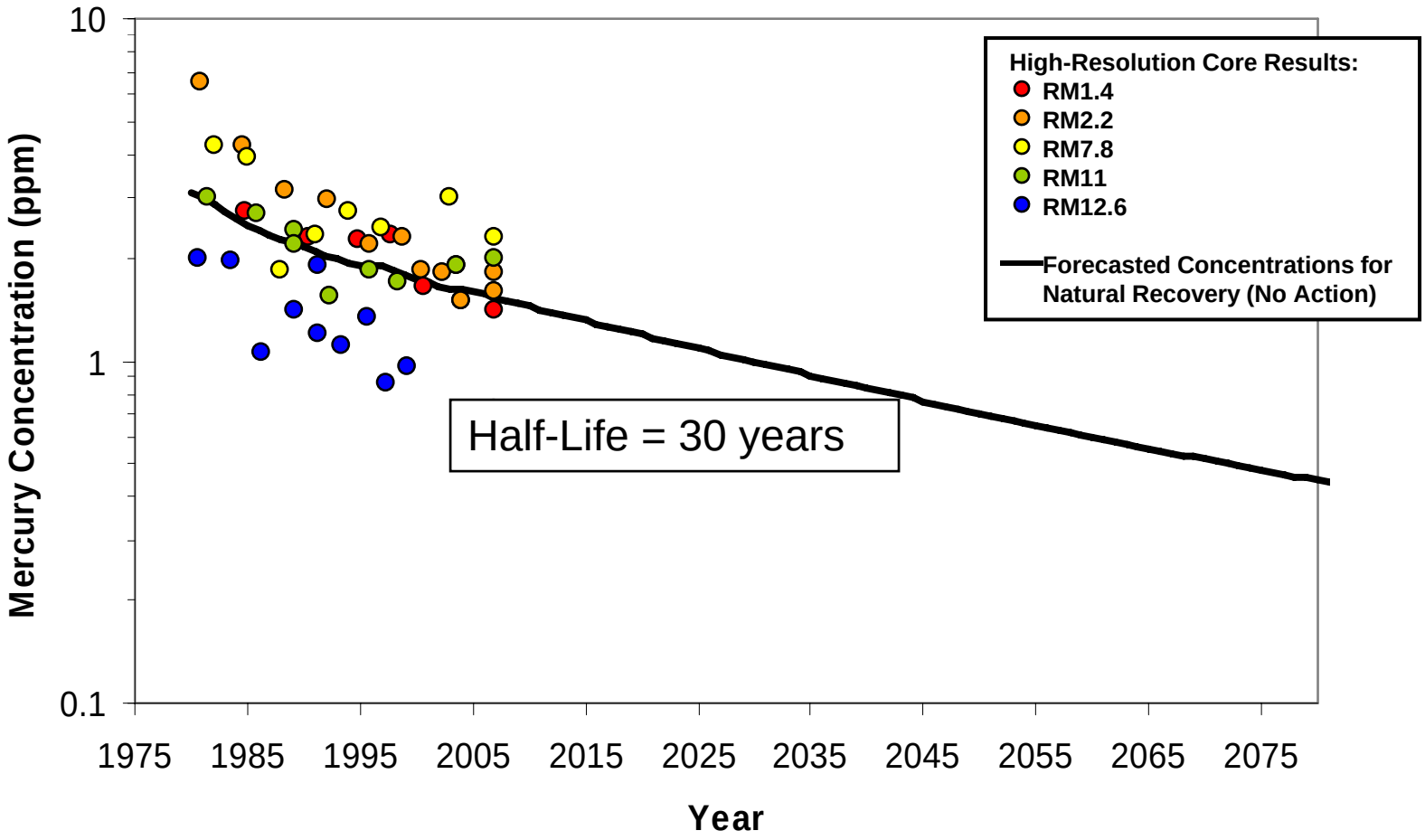


2,3,7,8-TCDD Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-11

September 2008

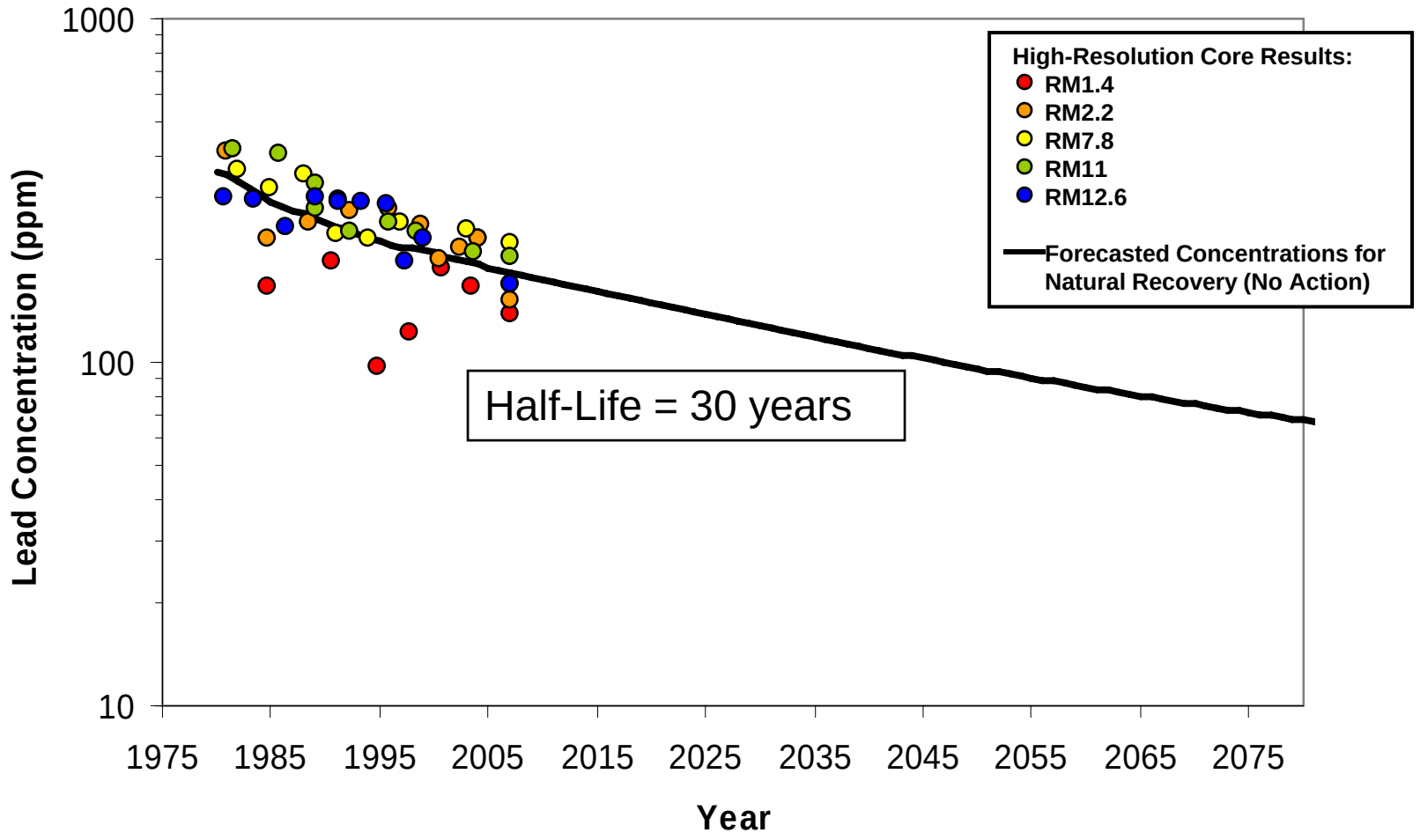


Mercury Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-12

September 2008

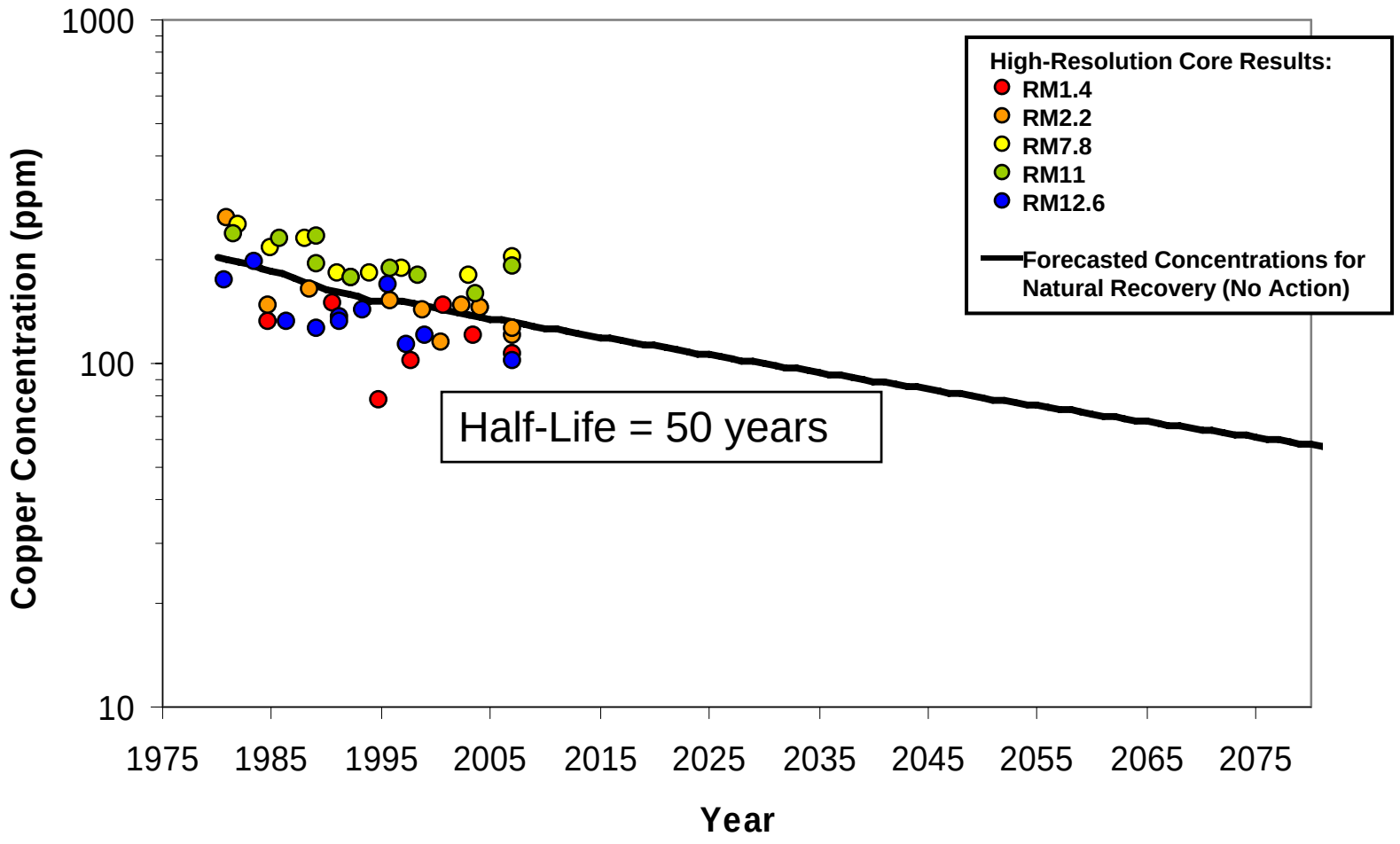


Lead Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-13

September 2008

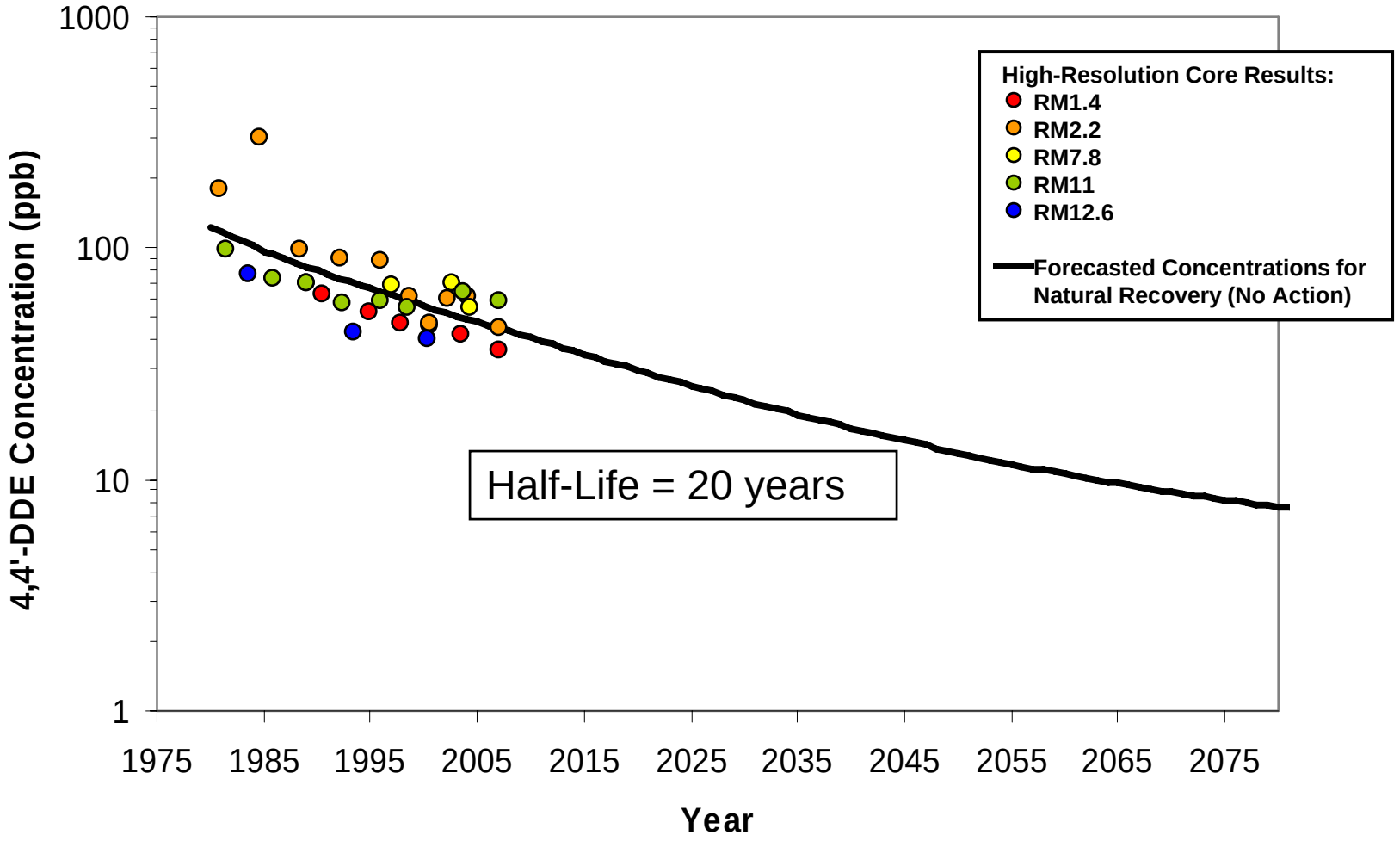


Copper Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-14

September 2008



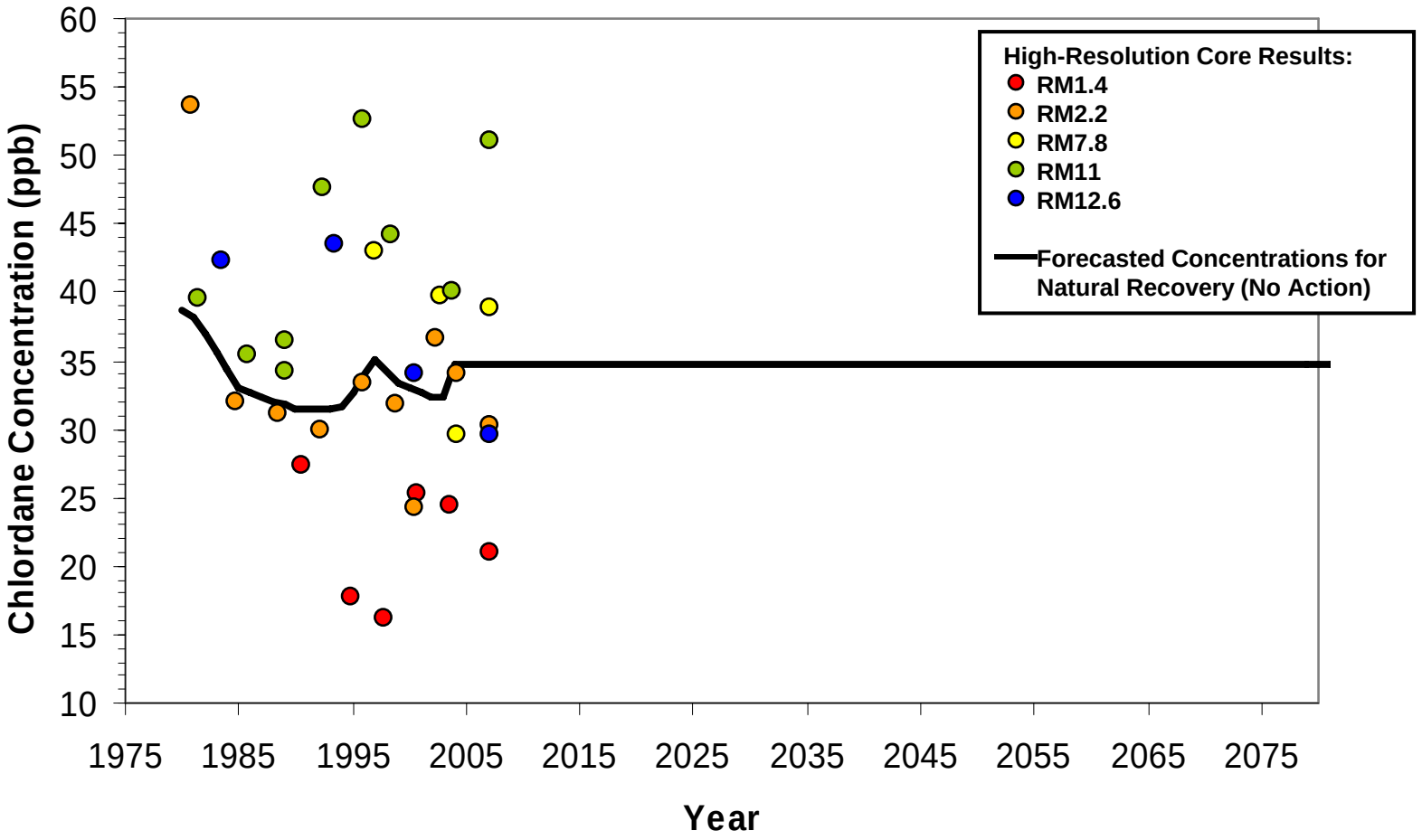
US Army Corps of Engineers

4,4'-DDE Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-15

September 2008



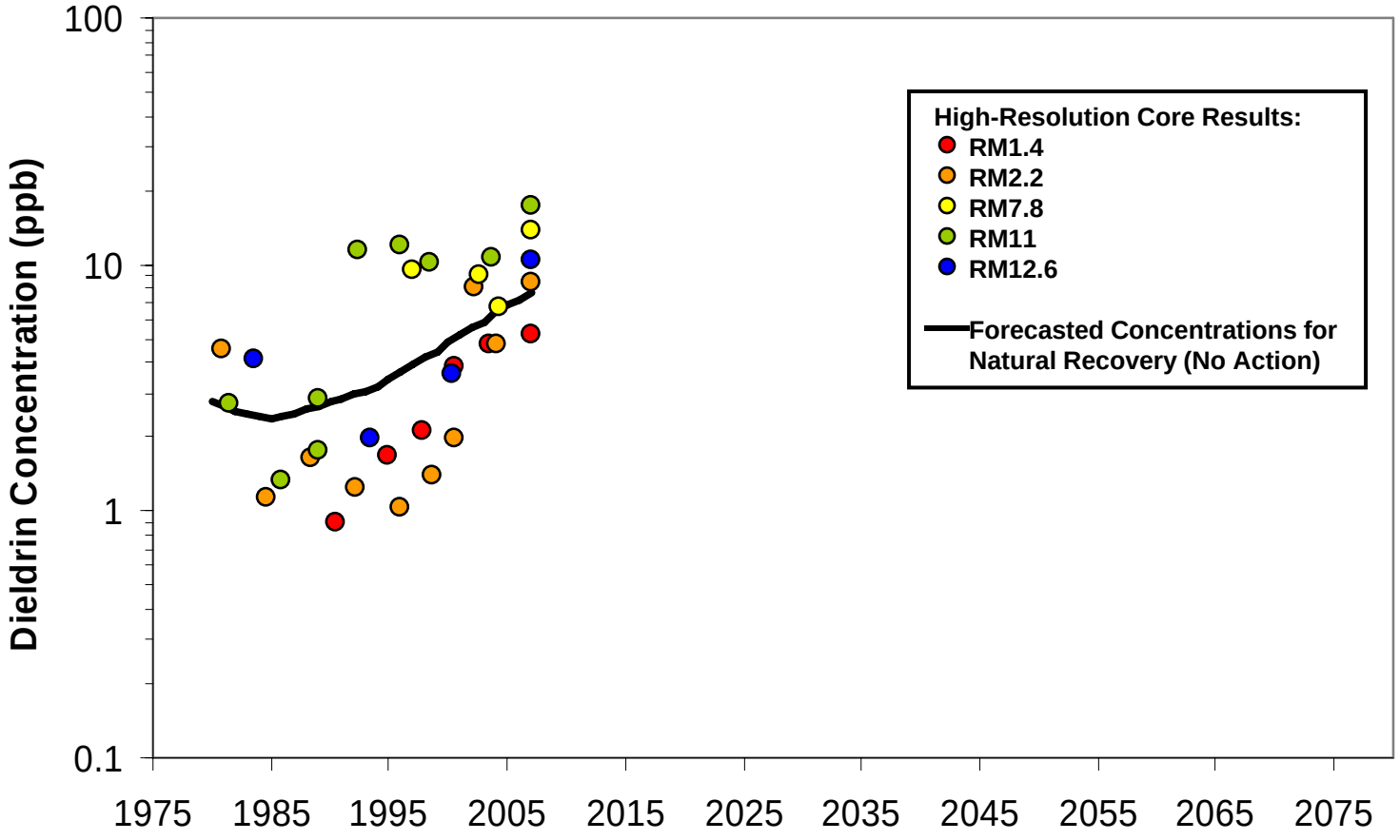
Note: The trend for chlordane was found to be statistically insignificant, so no half-life was calculated and it is shown with no long term trend.

Chlordane (gamma) Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-16

September 2008



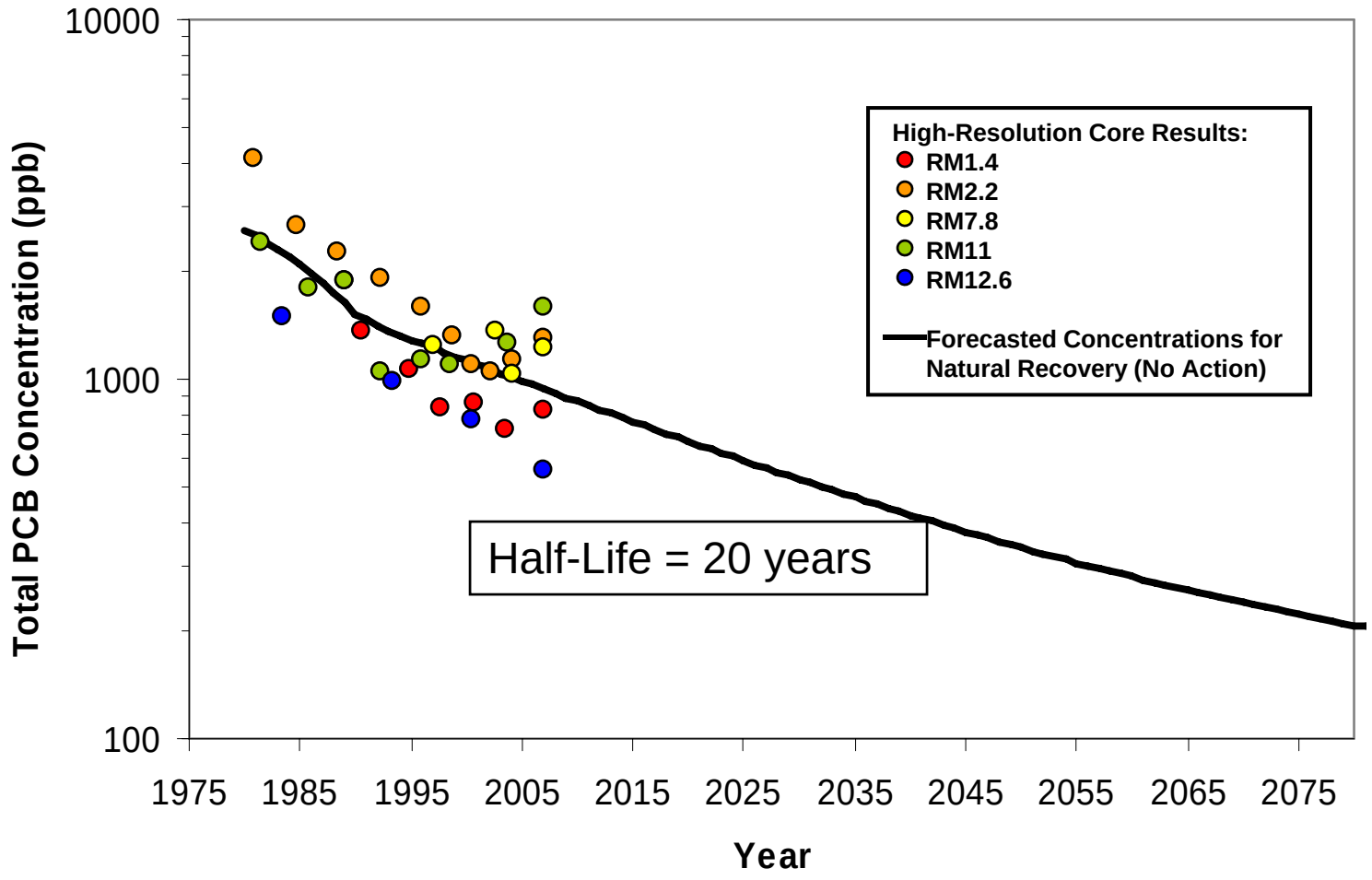
Note: Dieldrin was found to have a rising trend. This trend cannot be explained by the assumptions inherent in the forecasting process. For this reason, the trend is not extended beyond the measured data.

Dieldrin Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-17

September 2008

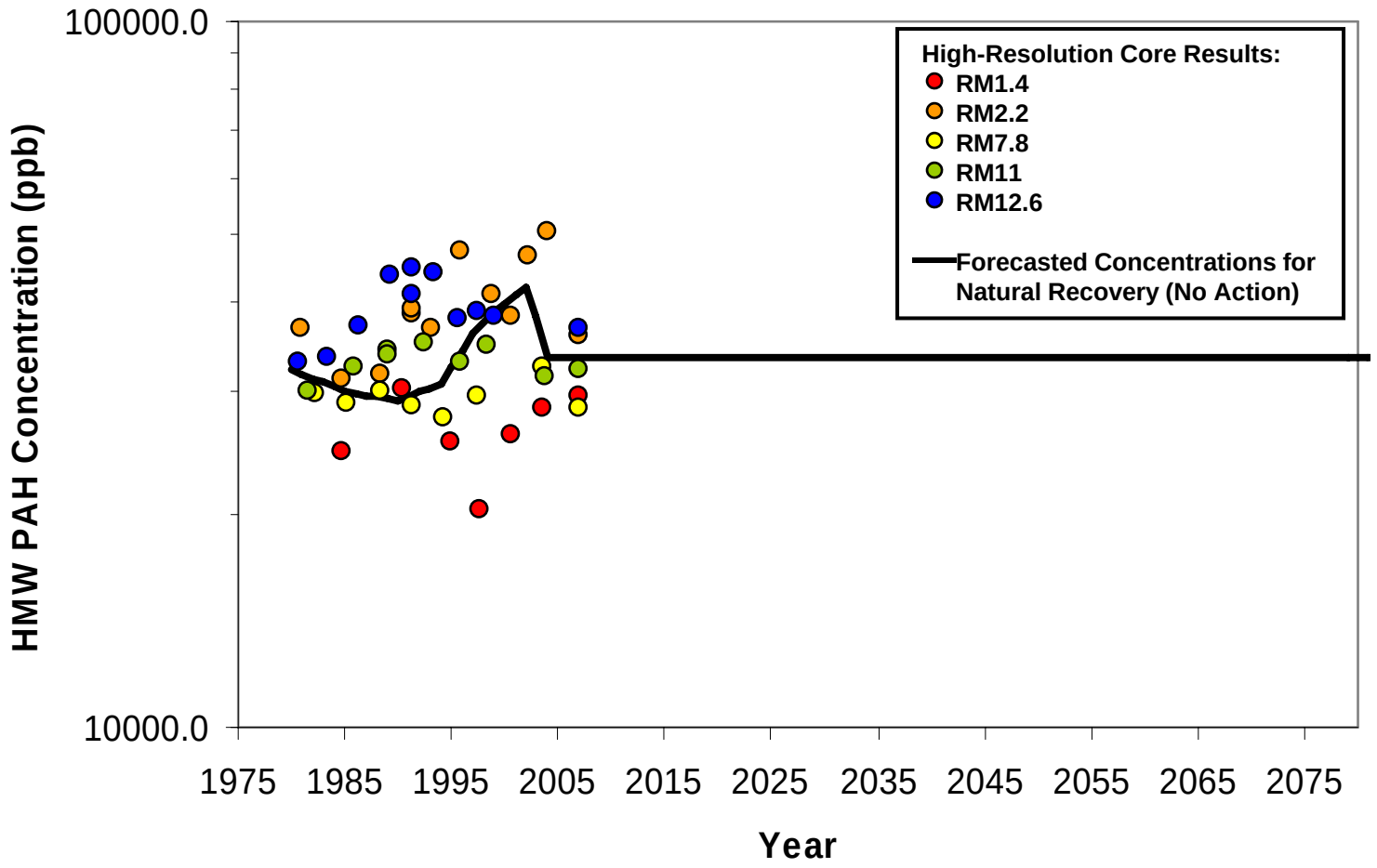


Total PCB Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-18

September 2008



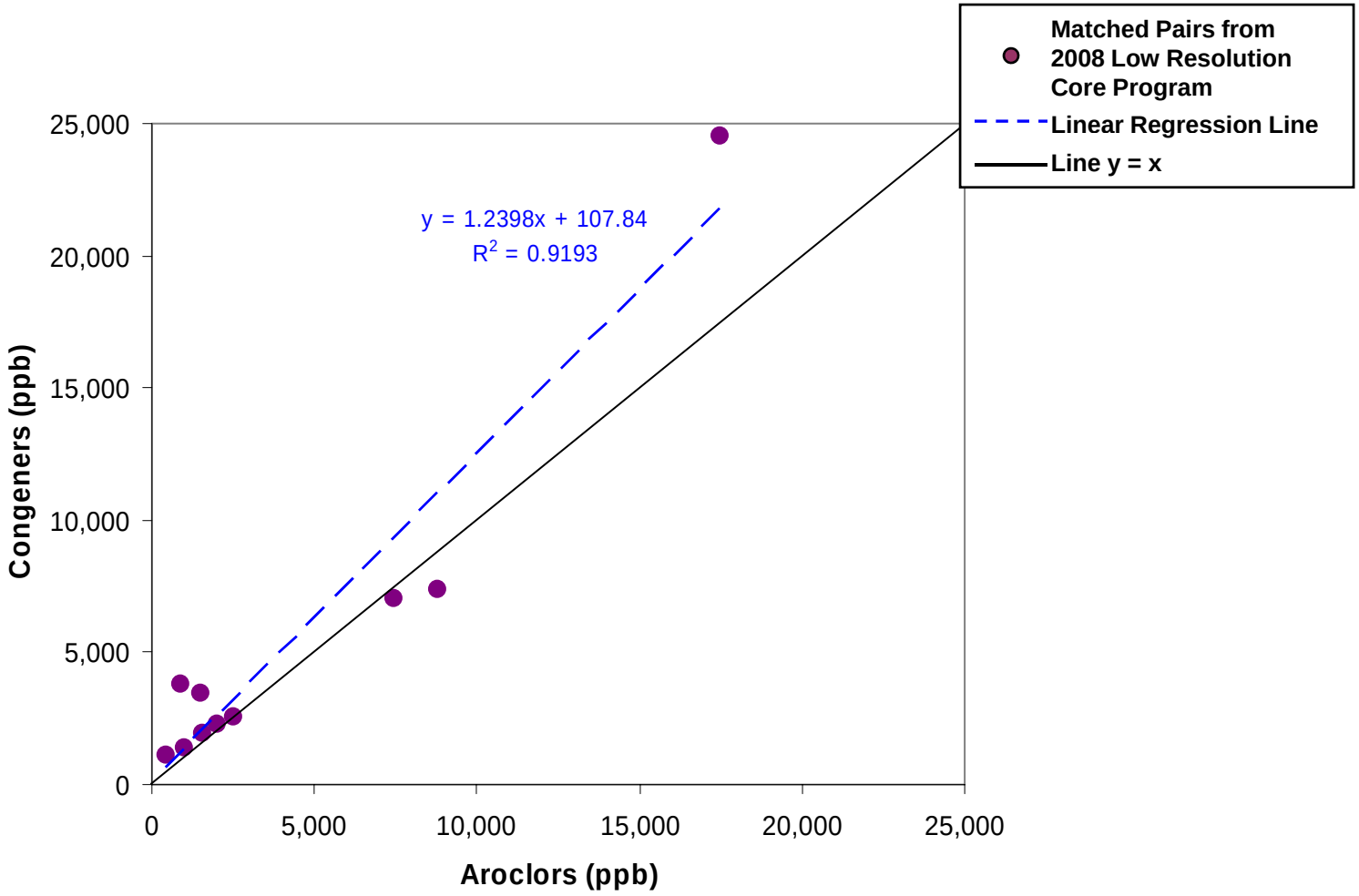
Note: The trend for HMW PAH was found to be statistically insignificant, so no half-life was calculated and it is shown with no long term trend.

HMW PAH Concentrations in Recently Deposited (Be-7 Bearing) Sediments – Measured and Predicted

Lower Passaic River Restoration Project

Figure 20-19

September 2008



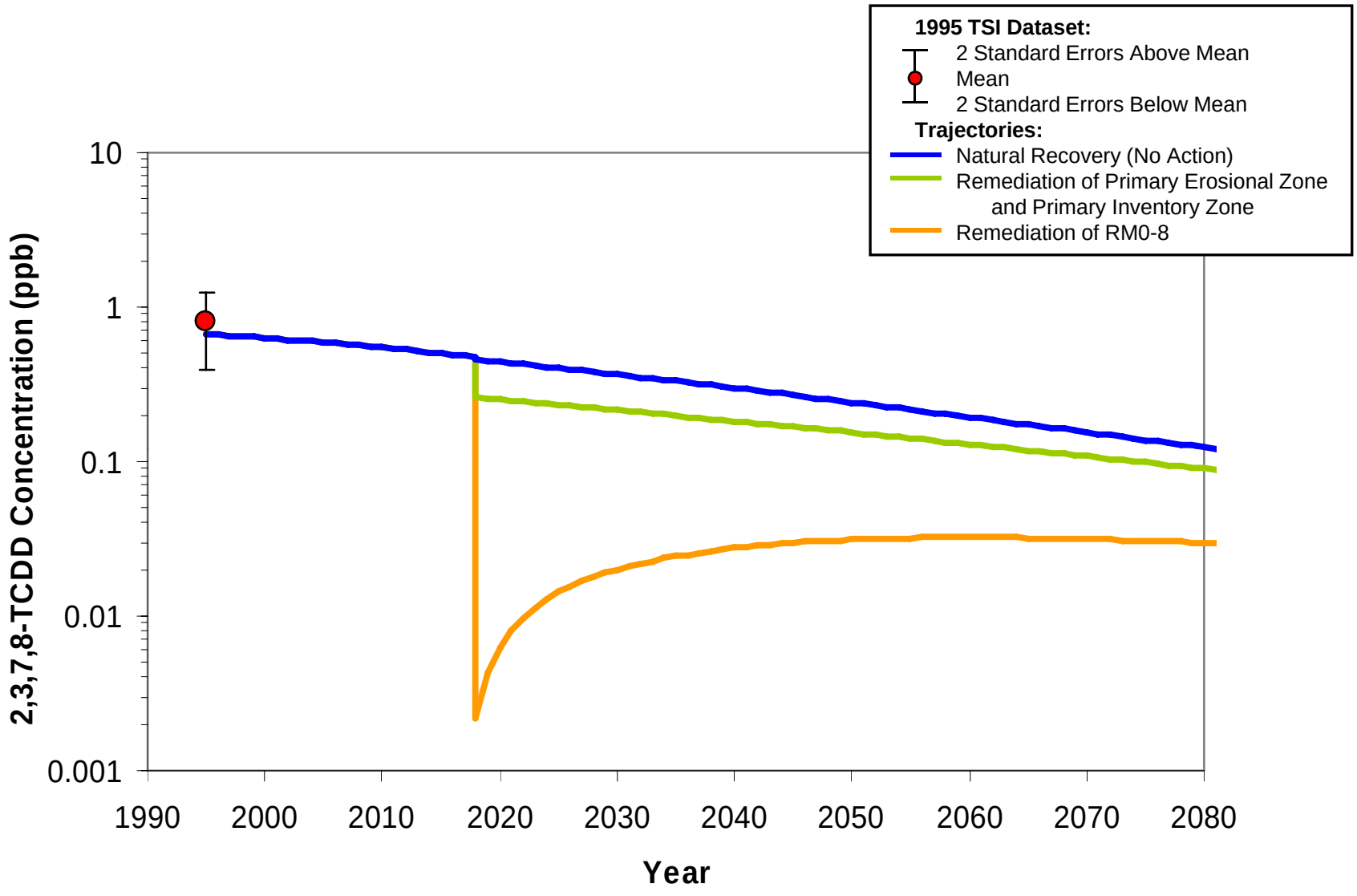
These points indicate the calculation of Total PCB as the sum of the Aroclors vs the sum of the congeners. The data are from the 10 matched pairs from the 2008 Low Resolution Cores from above RM8.

Comparison of Total PCB when Calculated as the Sum of the Congeners vs. the Sum of the Aroclors for 10 Matched Pairs from the 2008 Low Resolution Cores

Lower Passaic River Restoration Project

Figure 20-20

September 2008

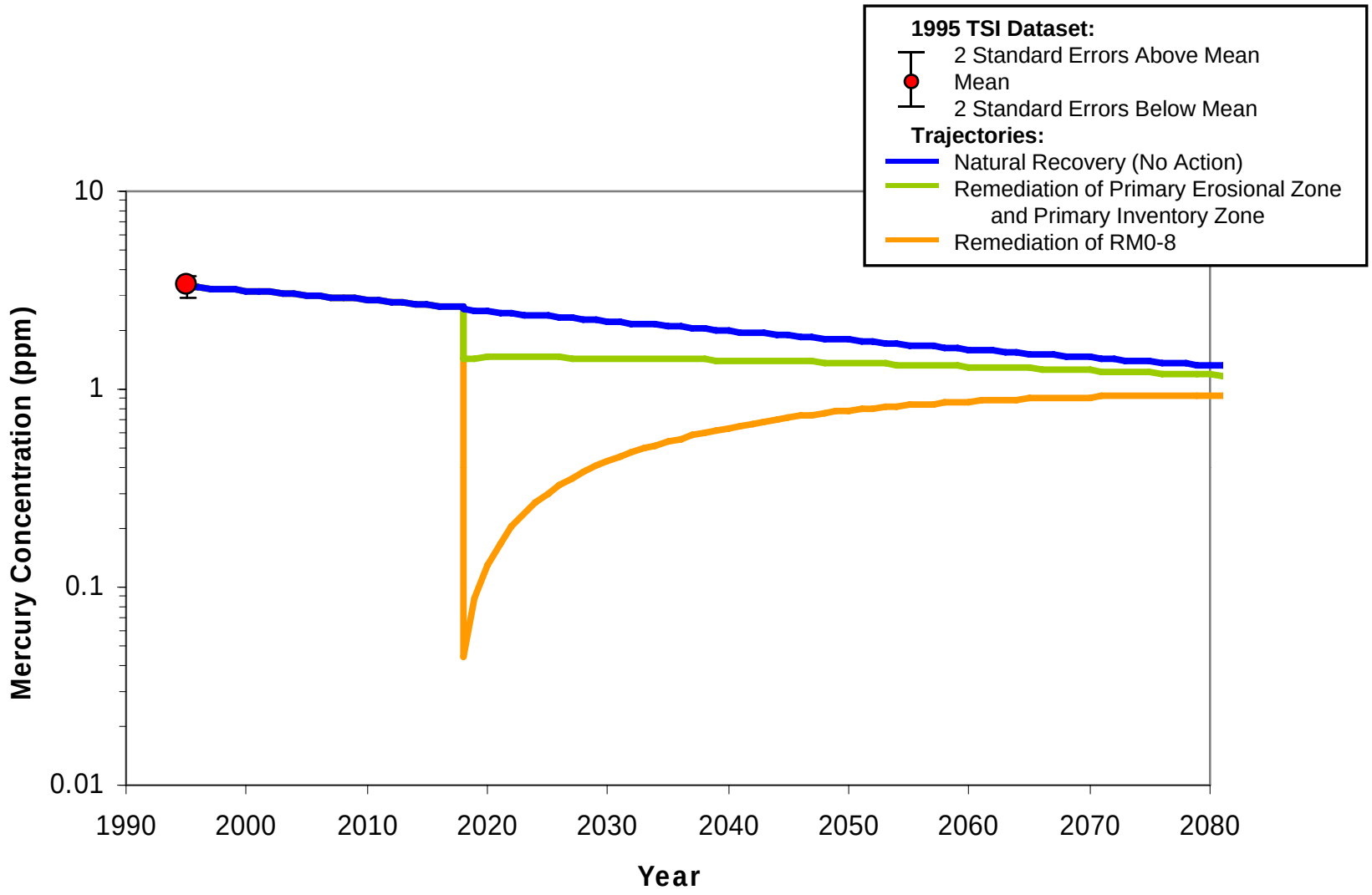


2,3,7,8-TCDD - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-21

September 2008

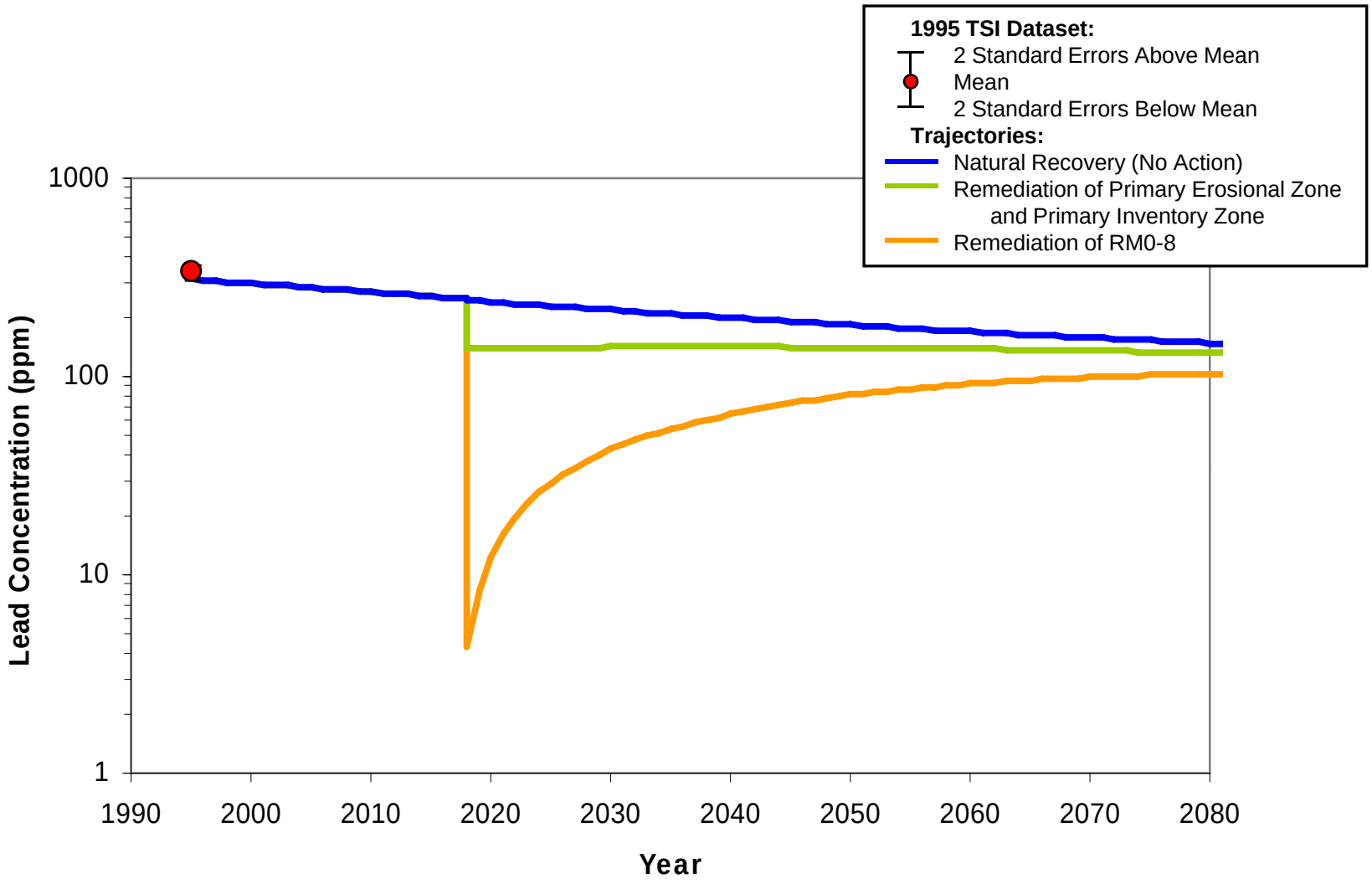


Mercury - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-22

September 2008

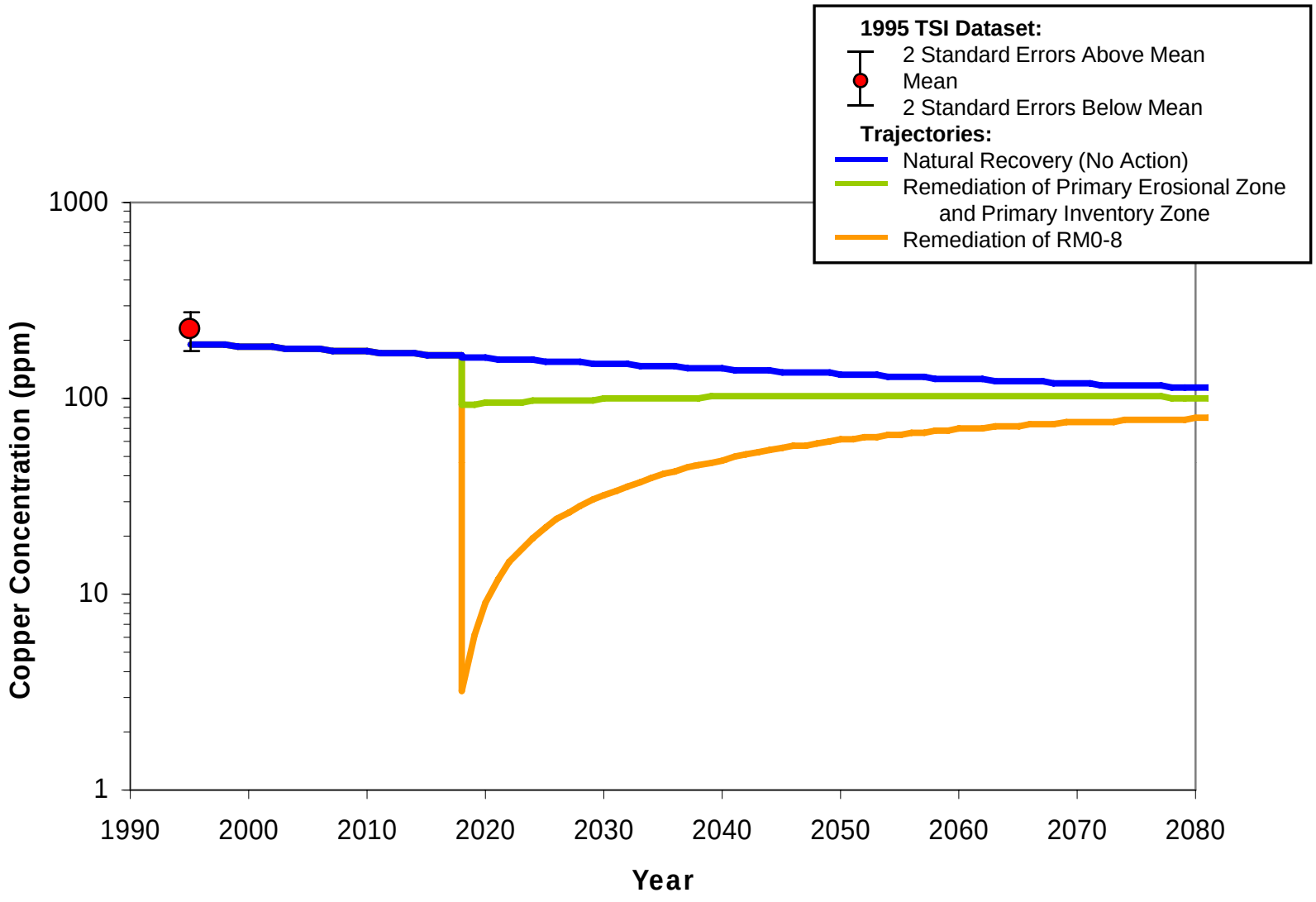


Lead - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-23

September 2008

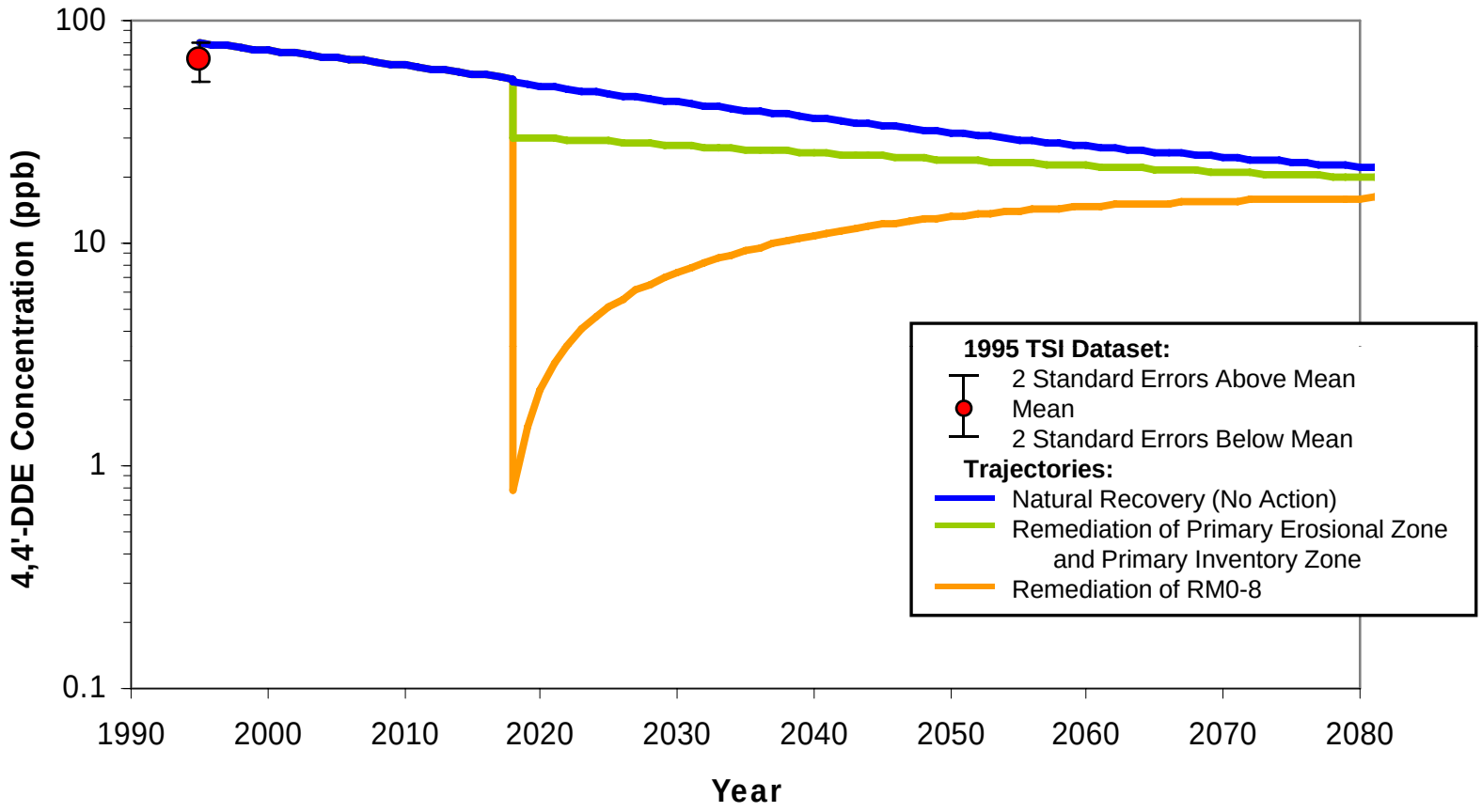


Copper - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-24

September 2008

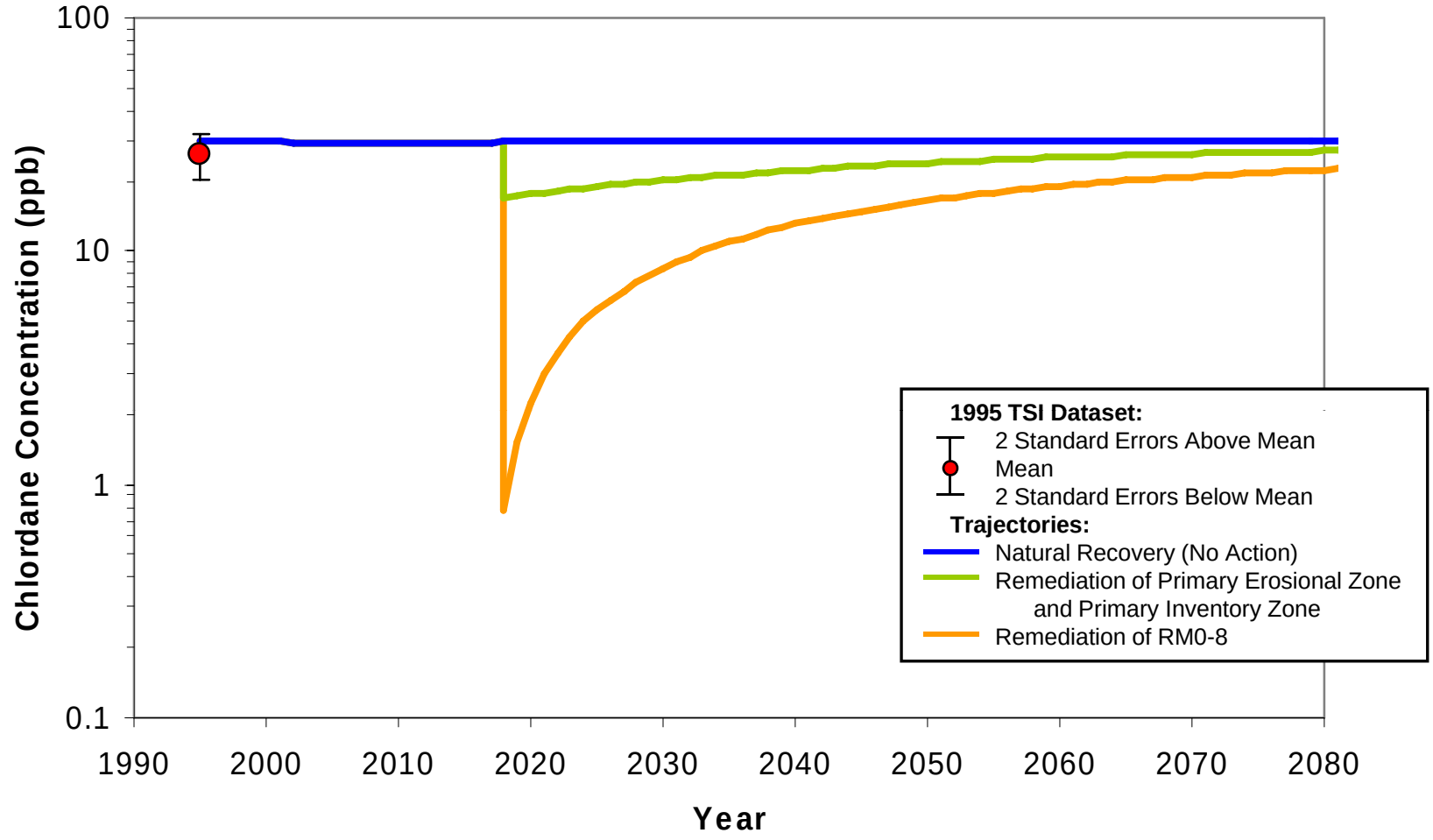


4,4'-DDE - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-25

September 2008

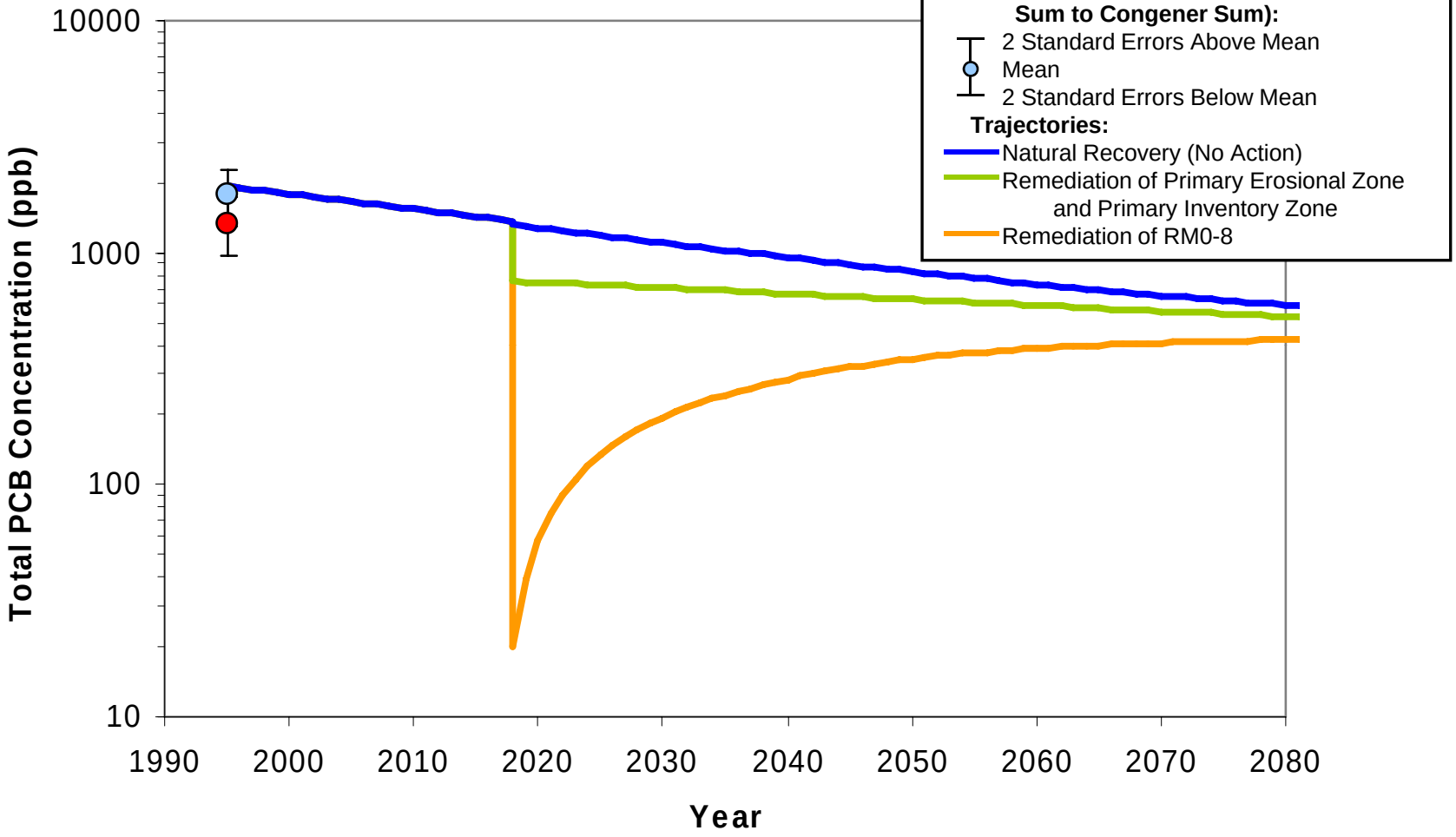


Chlordane (gamma) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-26

September 2008

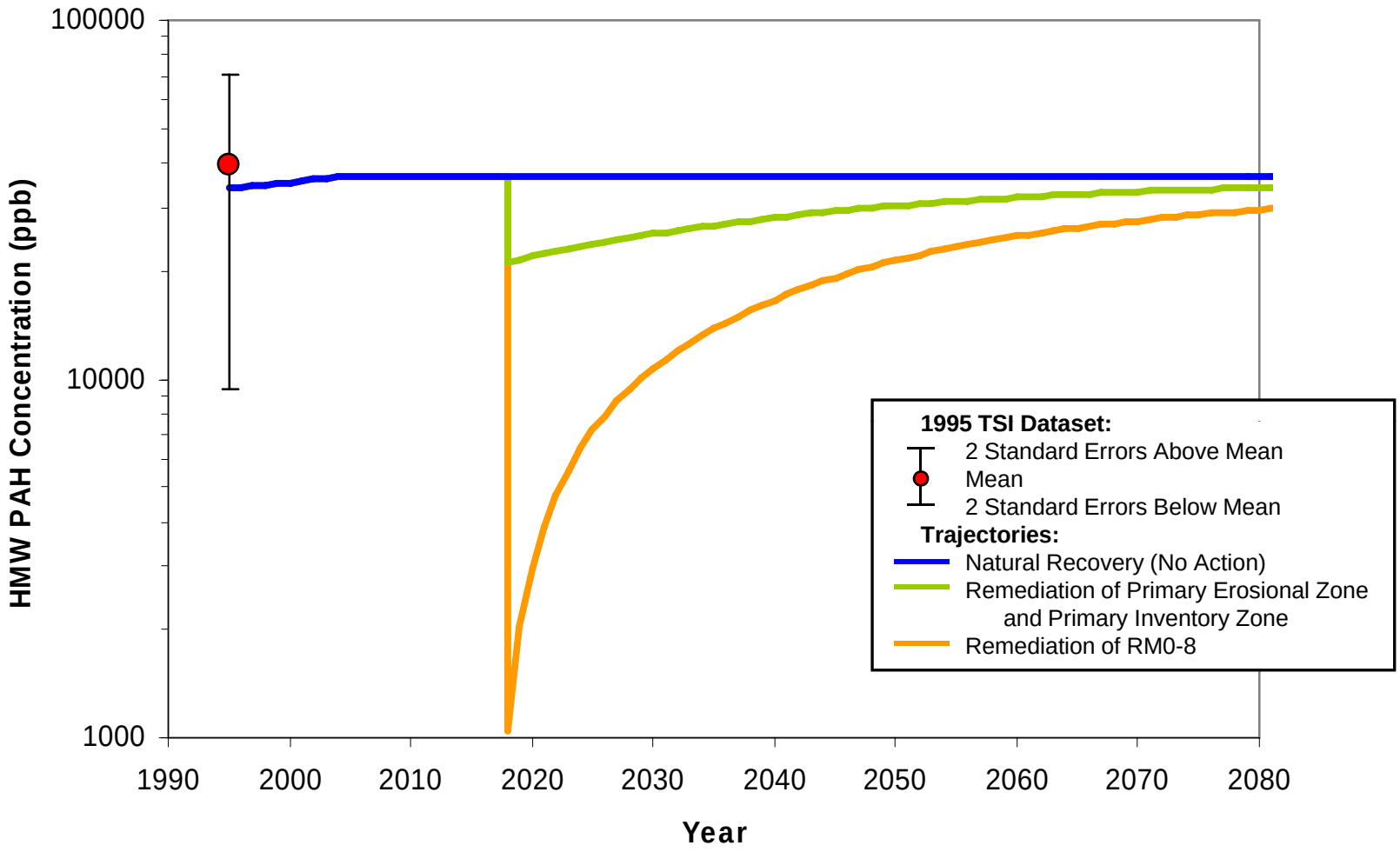


Total PCB - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-27

September 2008

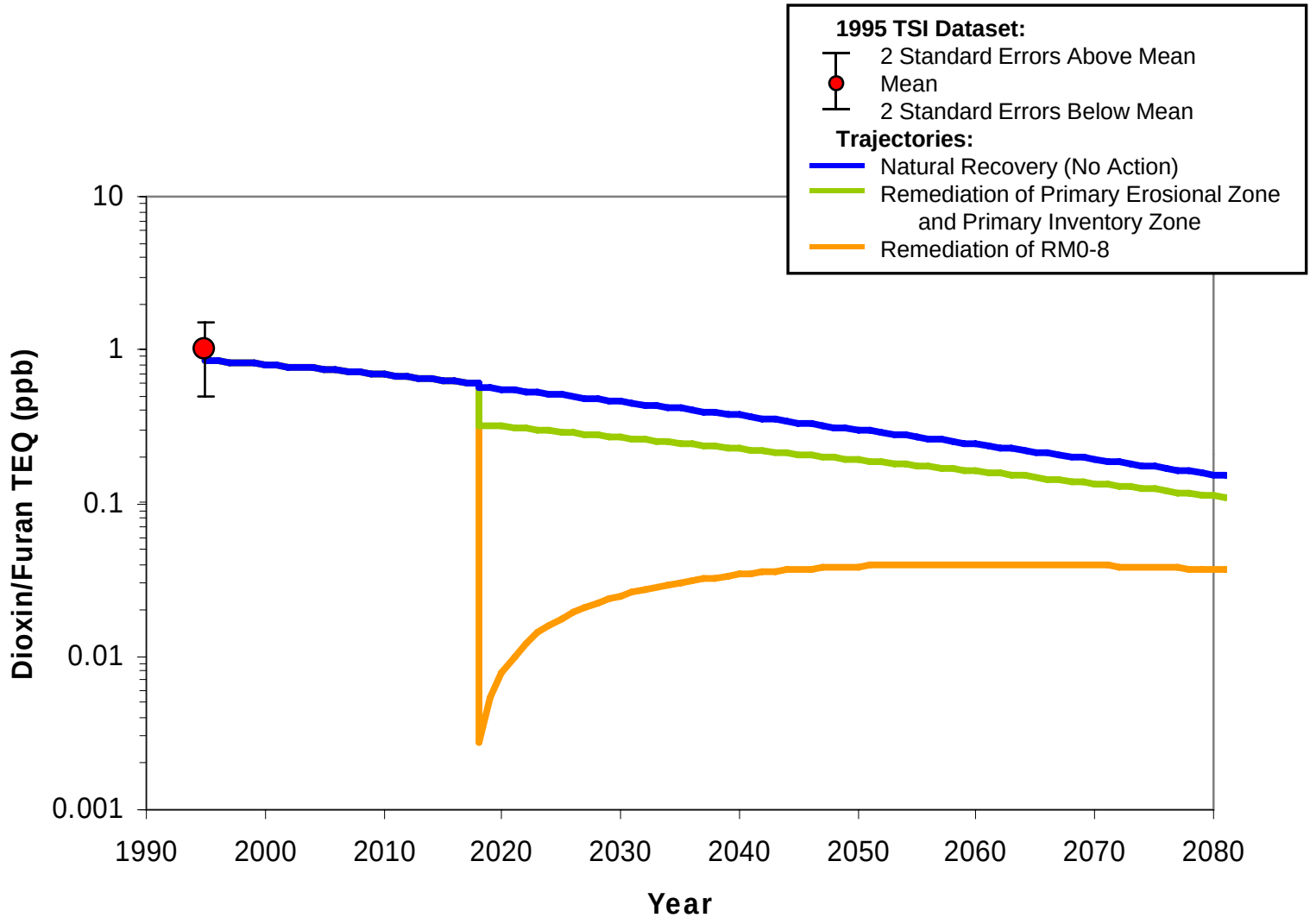


HMW PAH - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-28

September 2008

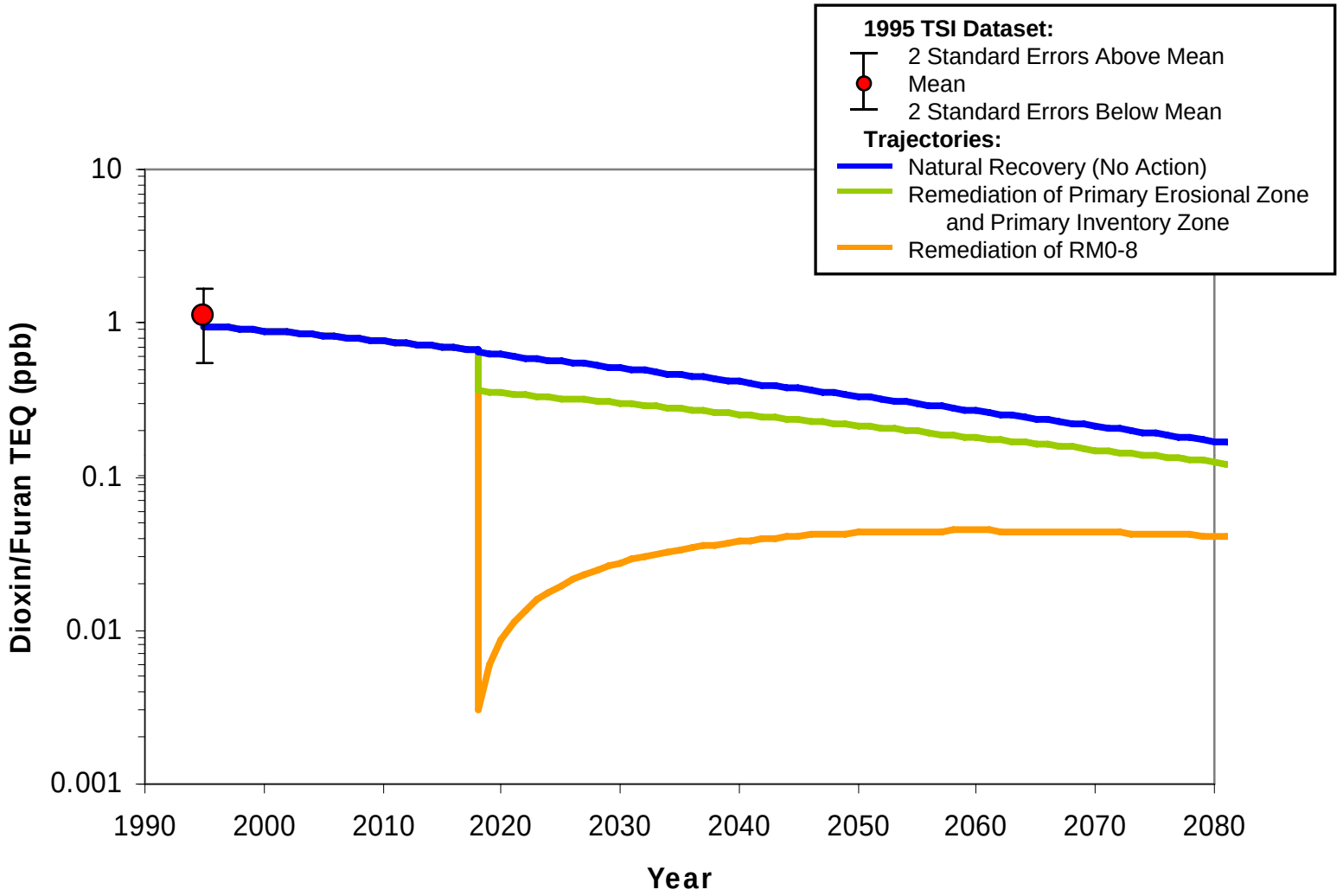


Dioxin/Furan TEQ (Fish) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-29

September 2008

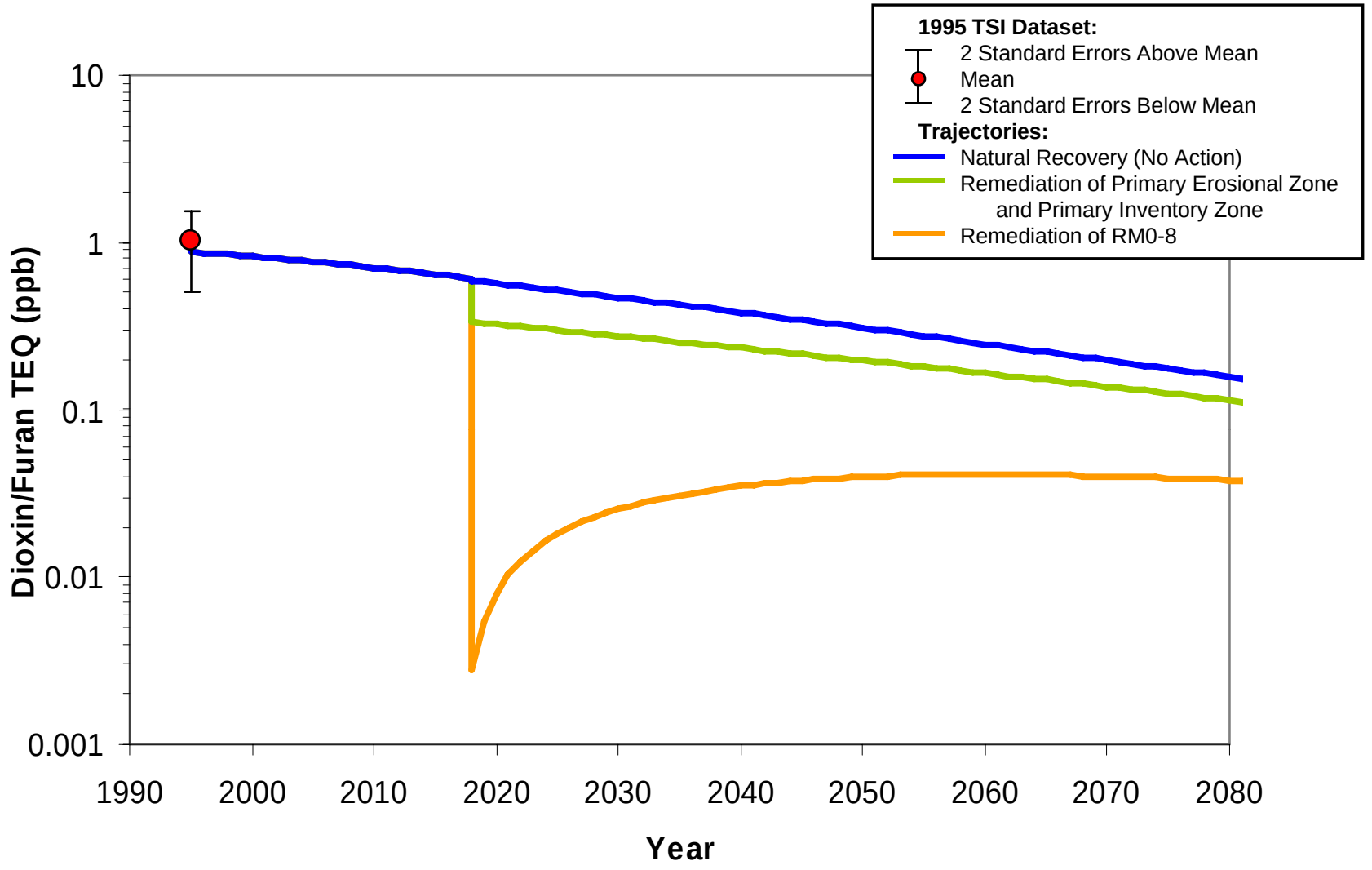


Dioxin/Furan TEQ (Bird) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-30

September 2008

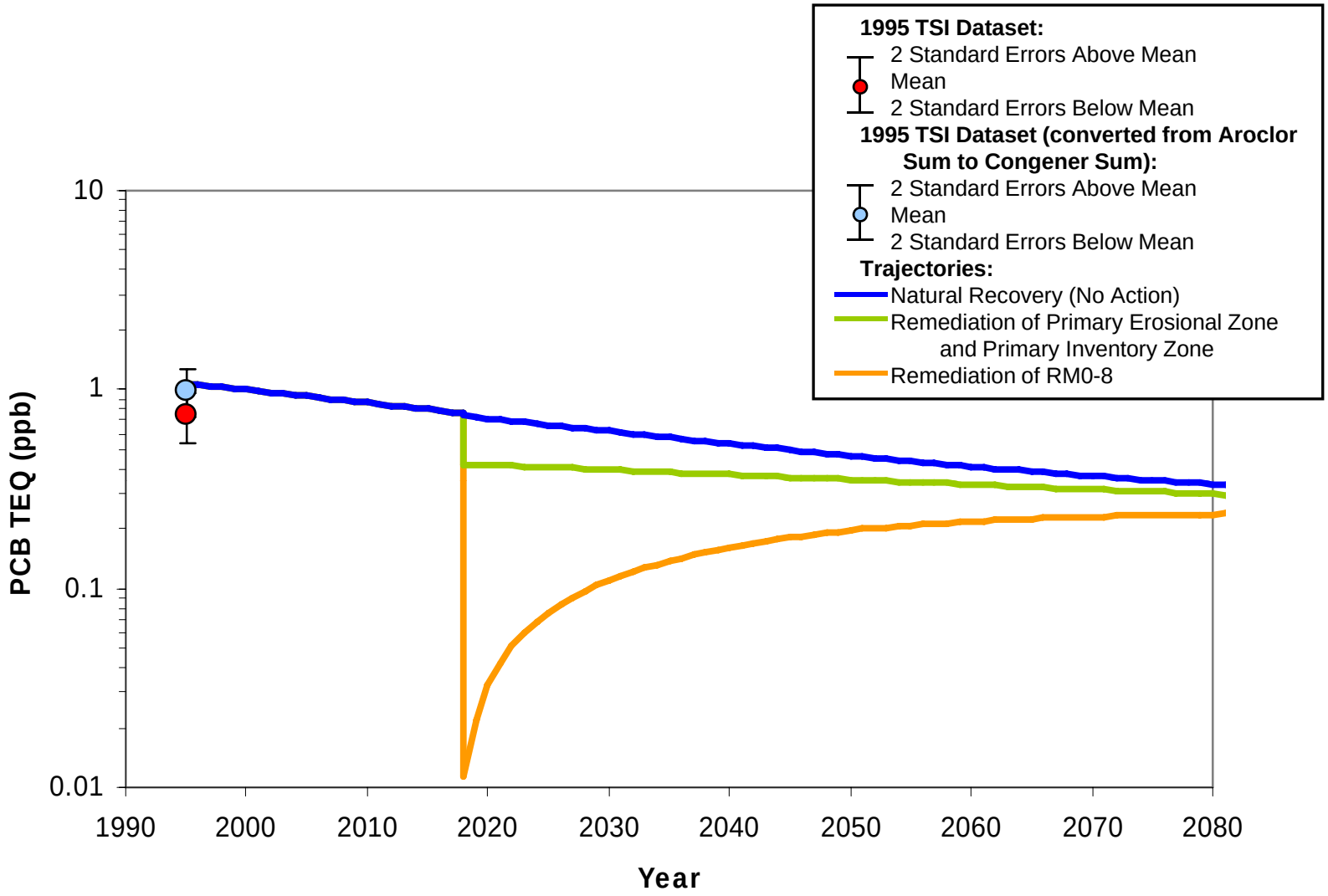


Dioxin/Furan TEQ (Mammal) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-31

September 2008

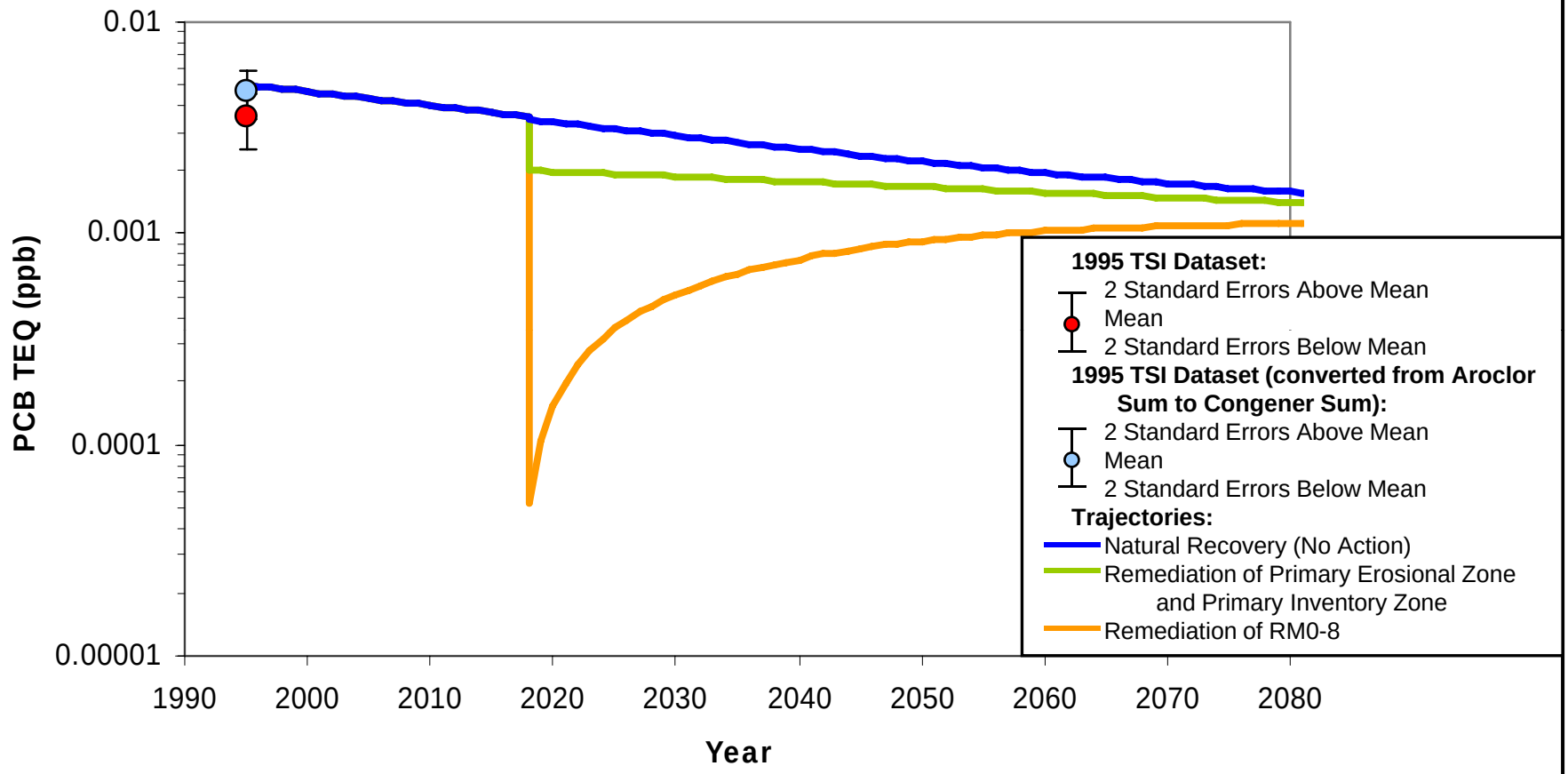


PCB TEQ (Fish) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-32

September 2008

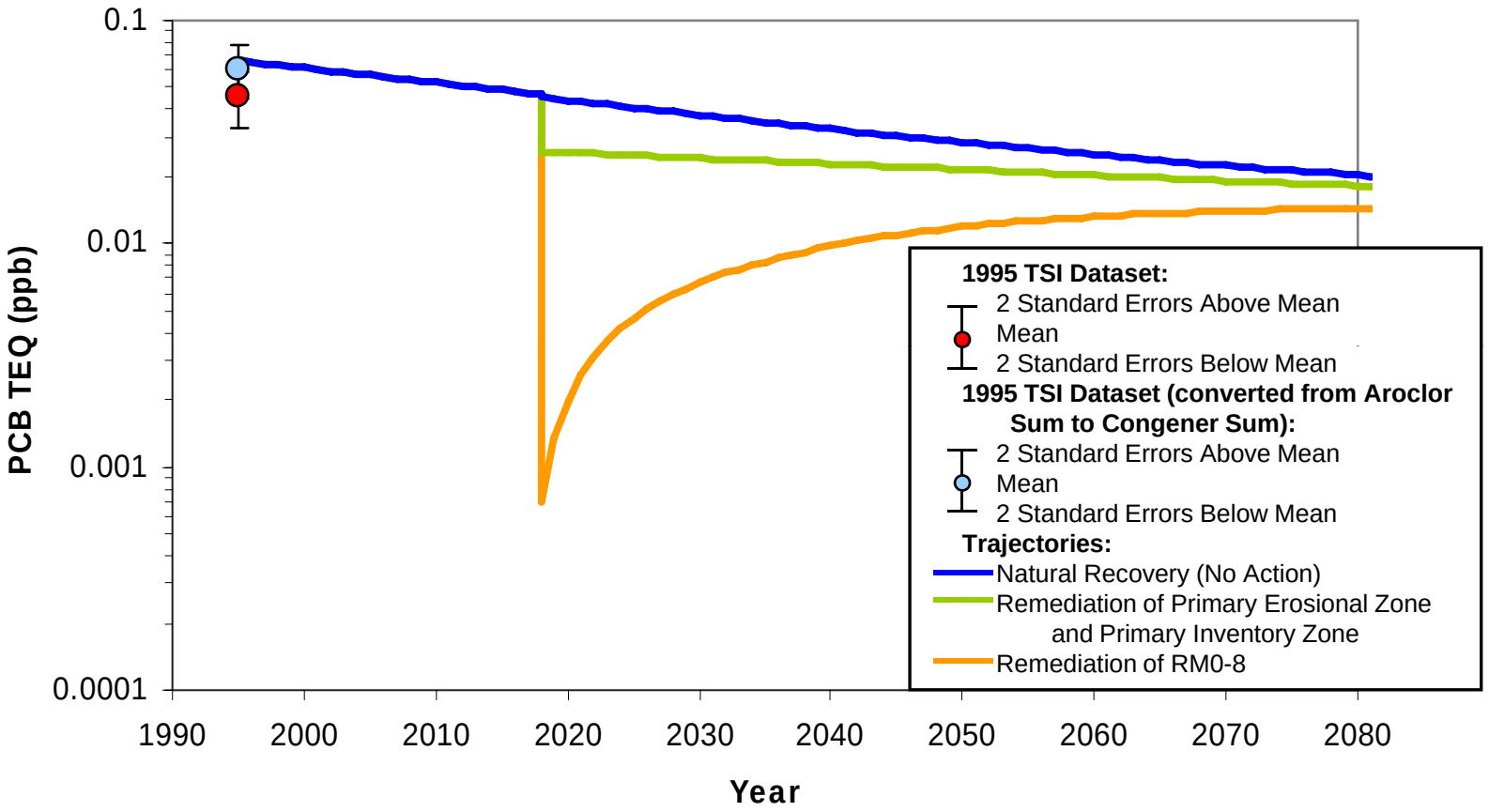


PCB TEQ (Bird) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-33

September 2008



PCB TEQ (Mammal) - Comparison of Estimated Trajectories for Concentration in 0-6 inch Biologically Active Layer

Lower Passaic River Restoration Project

Figure 20-34

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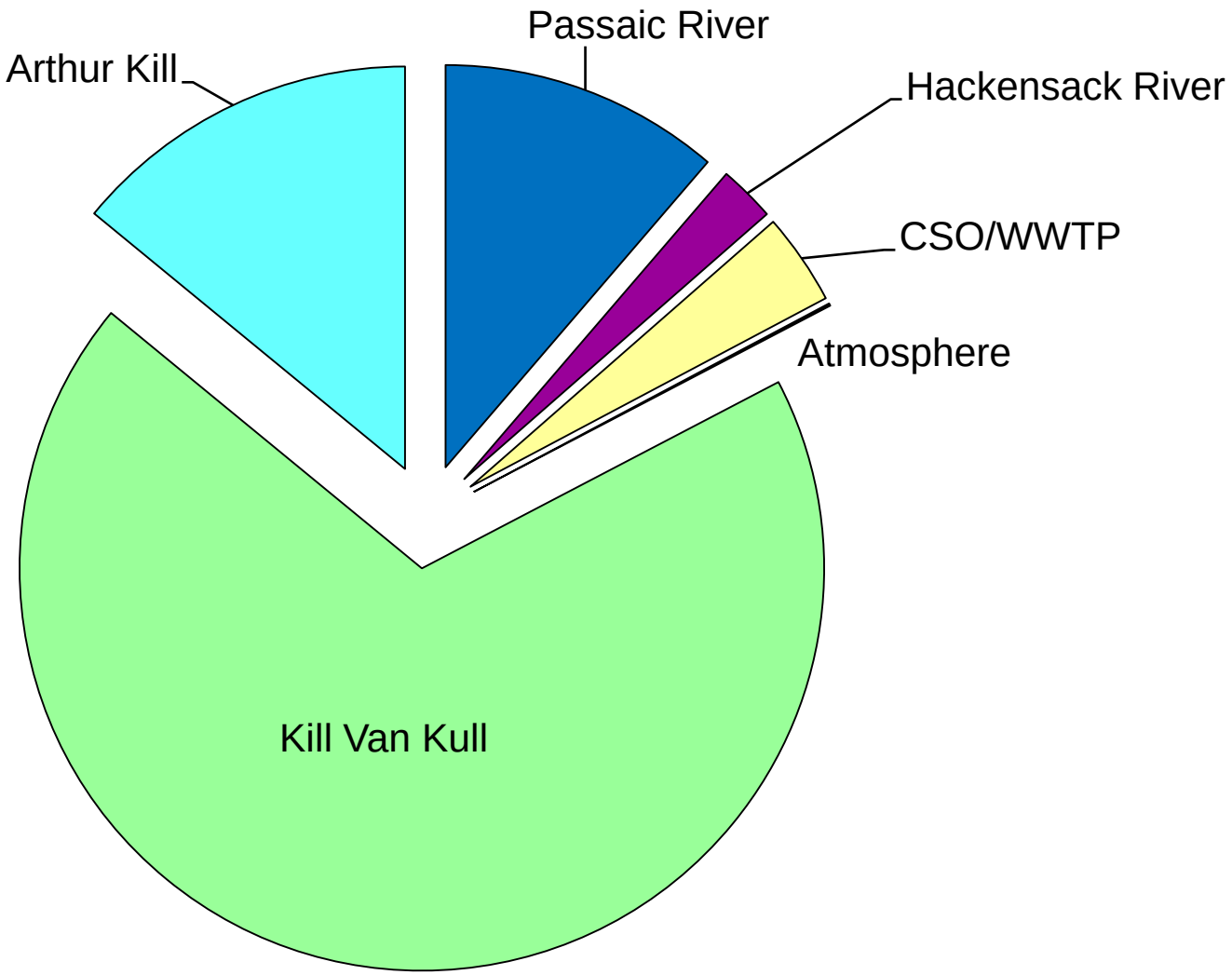
Chapter 21 Figures



Solids Mass Balance for Newark Bay

Figure 21-1

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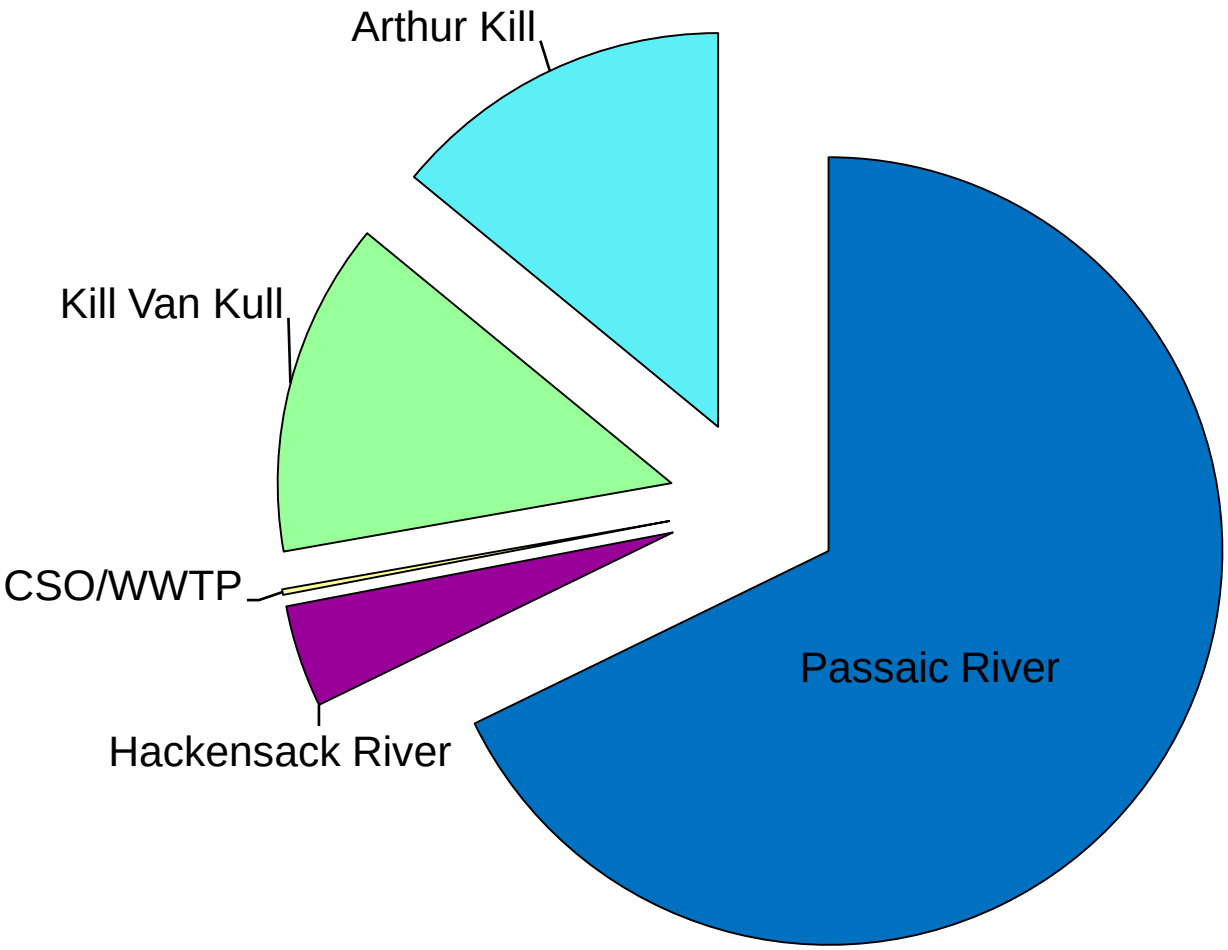
Lower Passaic River Restoration Project

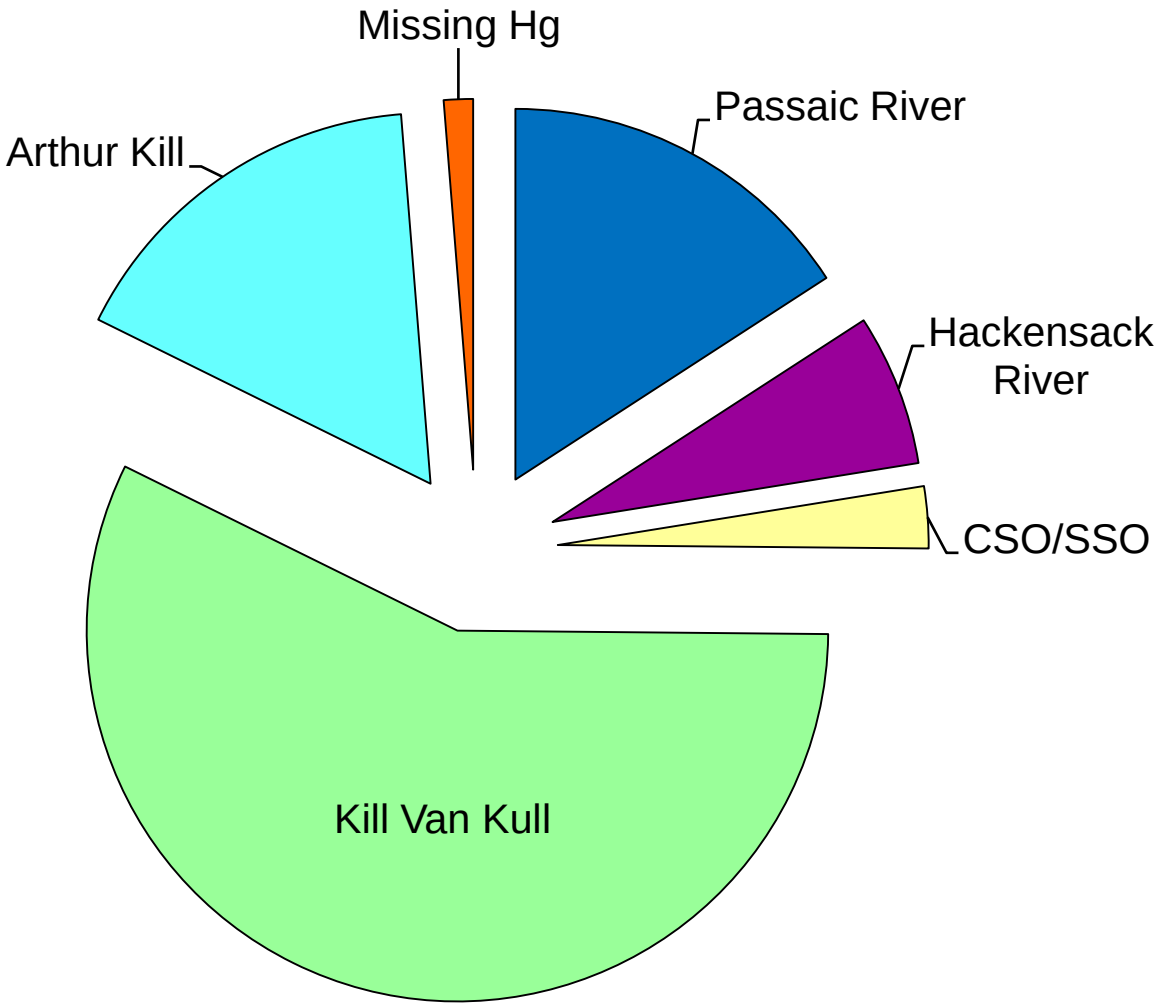


2,3,7,8-TCDD Mass Balance for Newark Bay

Figure 21-2

September 2008

Lower Passaic River Restoration Project



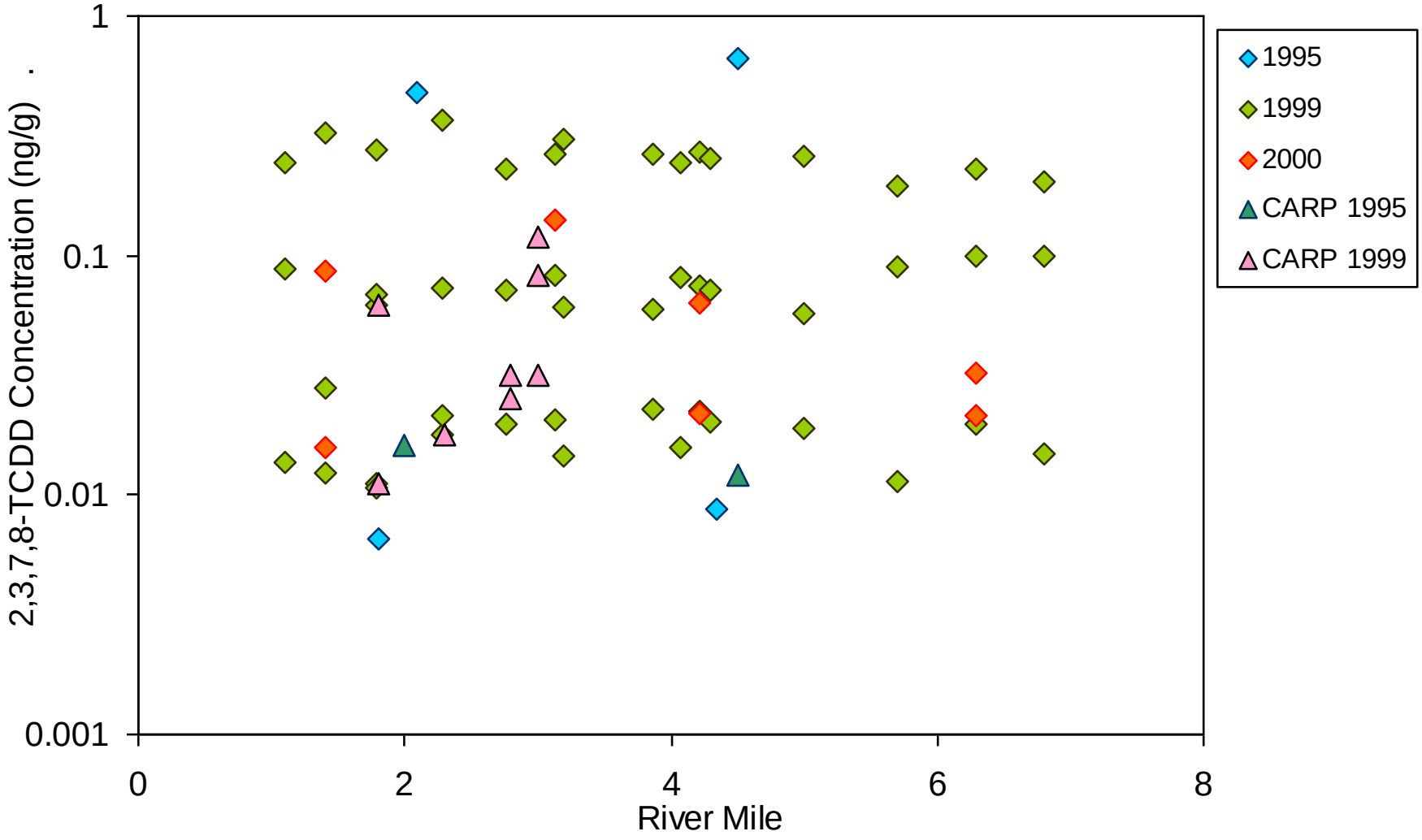
Mercury Mass Balance for Newark Bay

Figure 21-3

Lower Passaic River Restoration Project

September 2008

Chapter 22 Figures

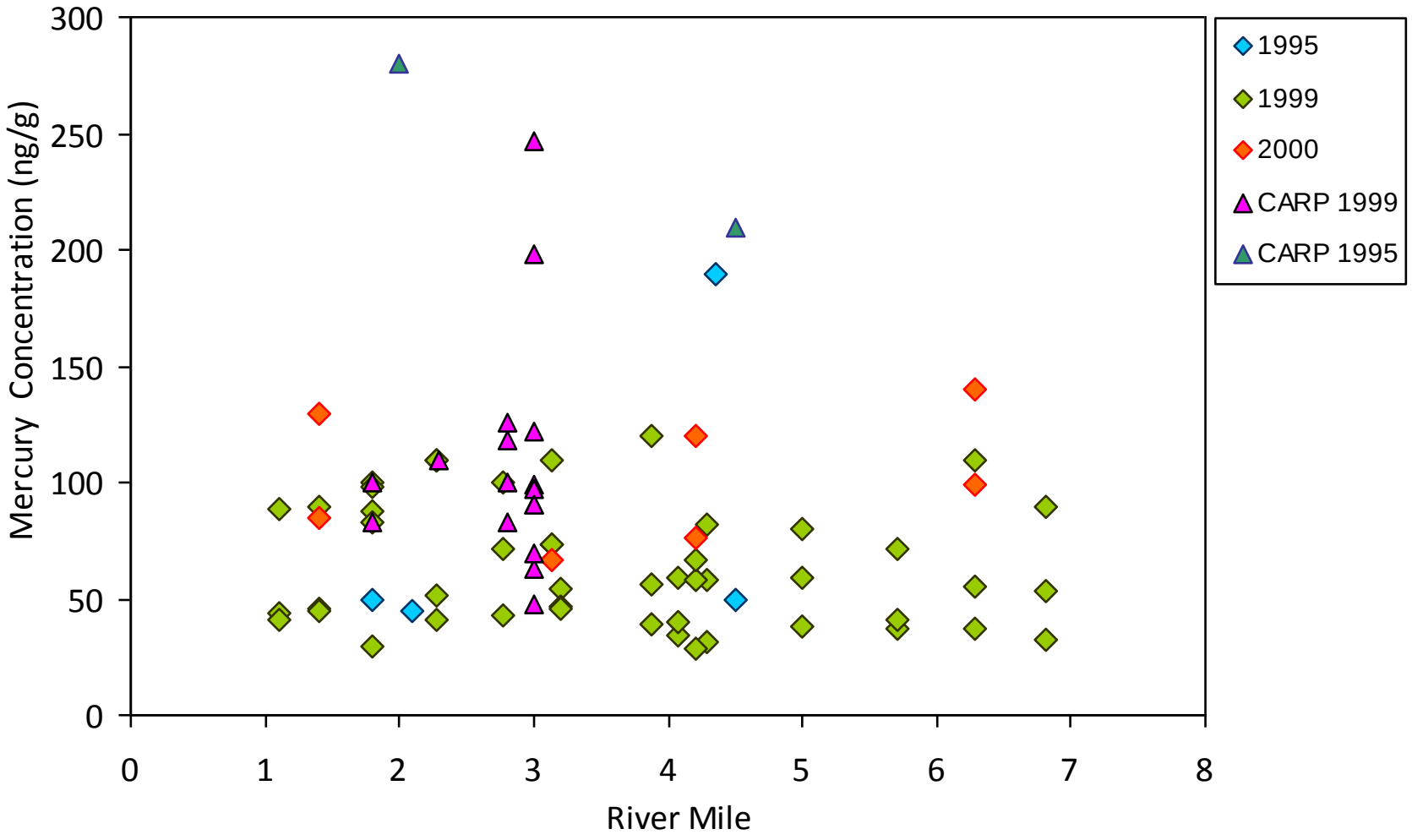


2,3,7,8-TCDD Concentration in Blue Crab Tissue vs. River Mile

Lower Passaic River Restoration Project

Figure 22-1

September 2008

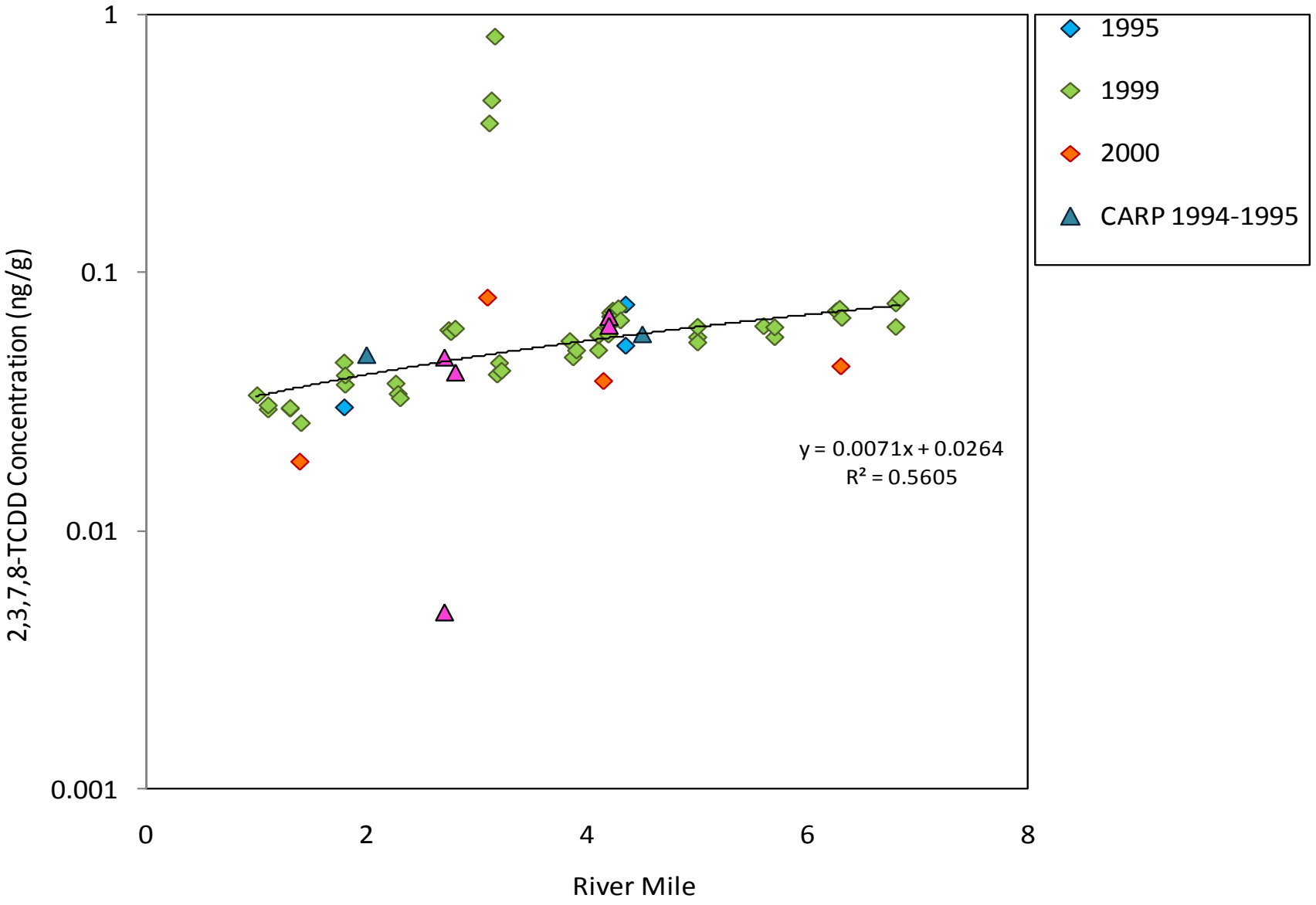


Mercury Concentration in Blue Crab Tissue vs. River Mile

Lower Passaic River Restoration Project

Figure 22-2

September 2008

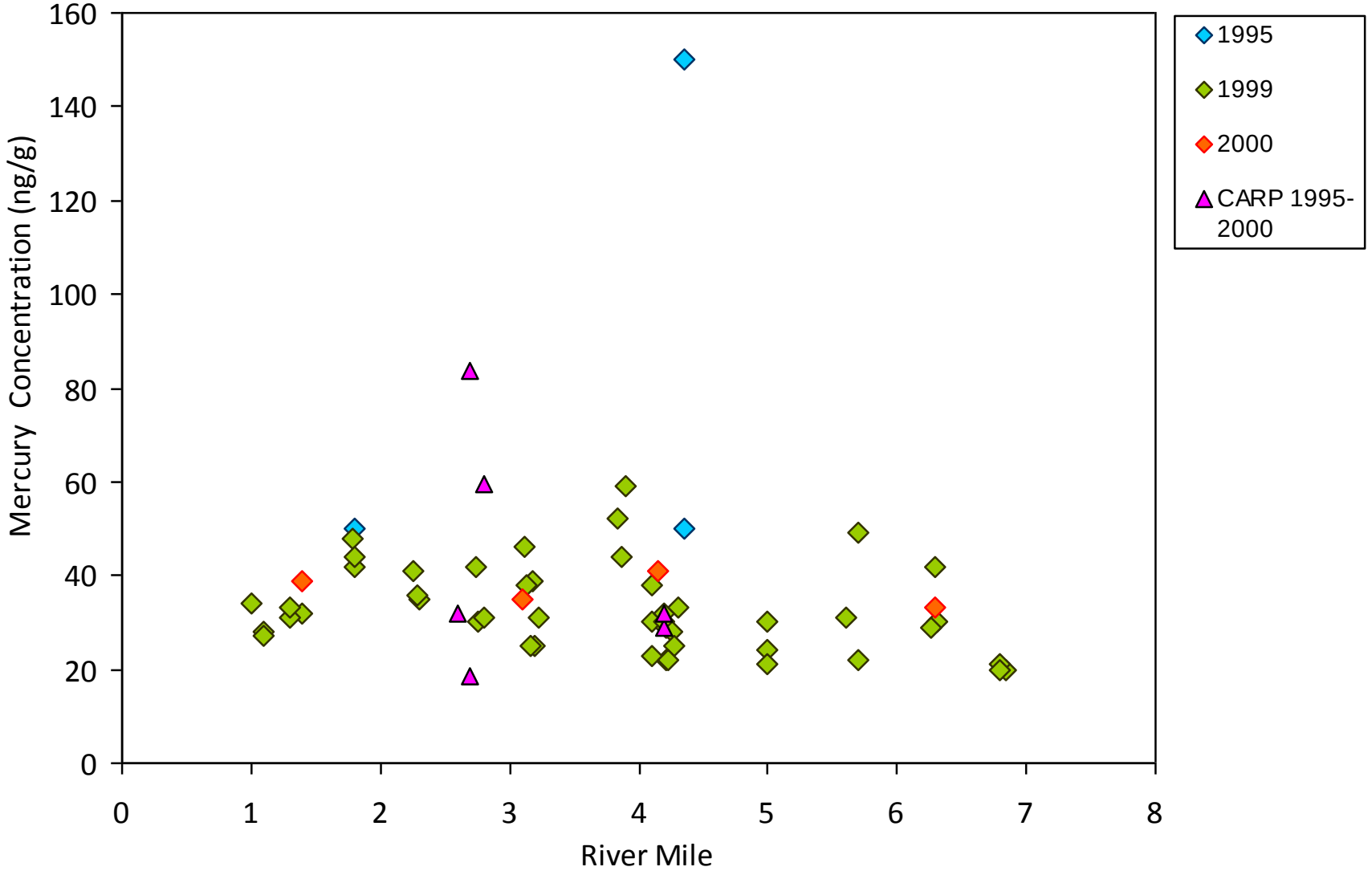


2,3,7,8-TCDD Concentration in Mummichog Tissue vs. River Mile

Lower Passaic River Restoration Project

Figure 22-3

September 2008

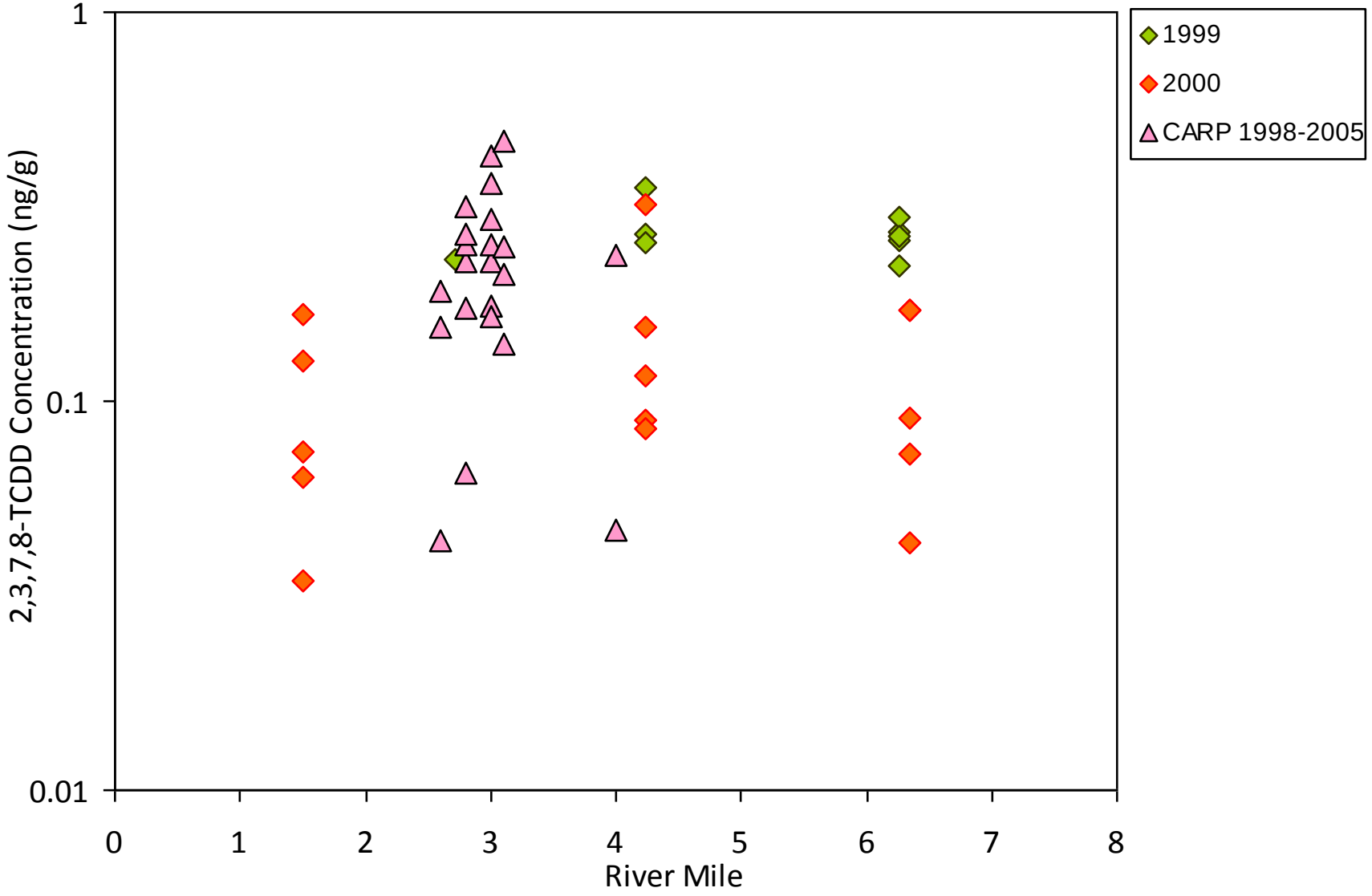


Mercury Concentration in Mummichog Tissue vs. River Mile

Lower Passaic River Restoration Project

Figure 22-4

September 2008



2,3,7,8-TCDD Concentration in White Perch Tissue vs. River Mile

Figure 22-5

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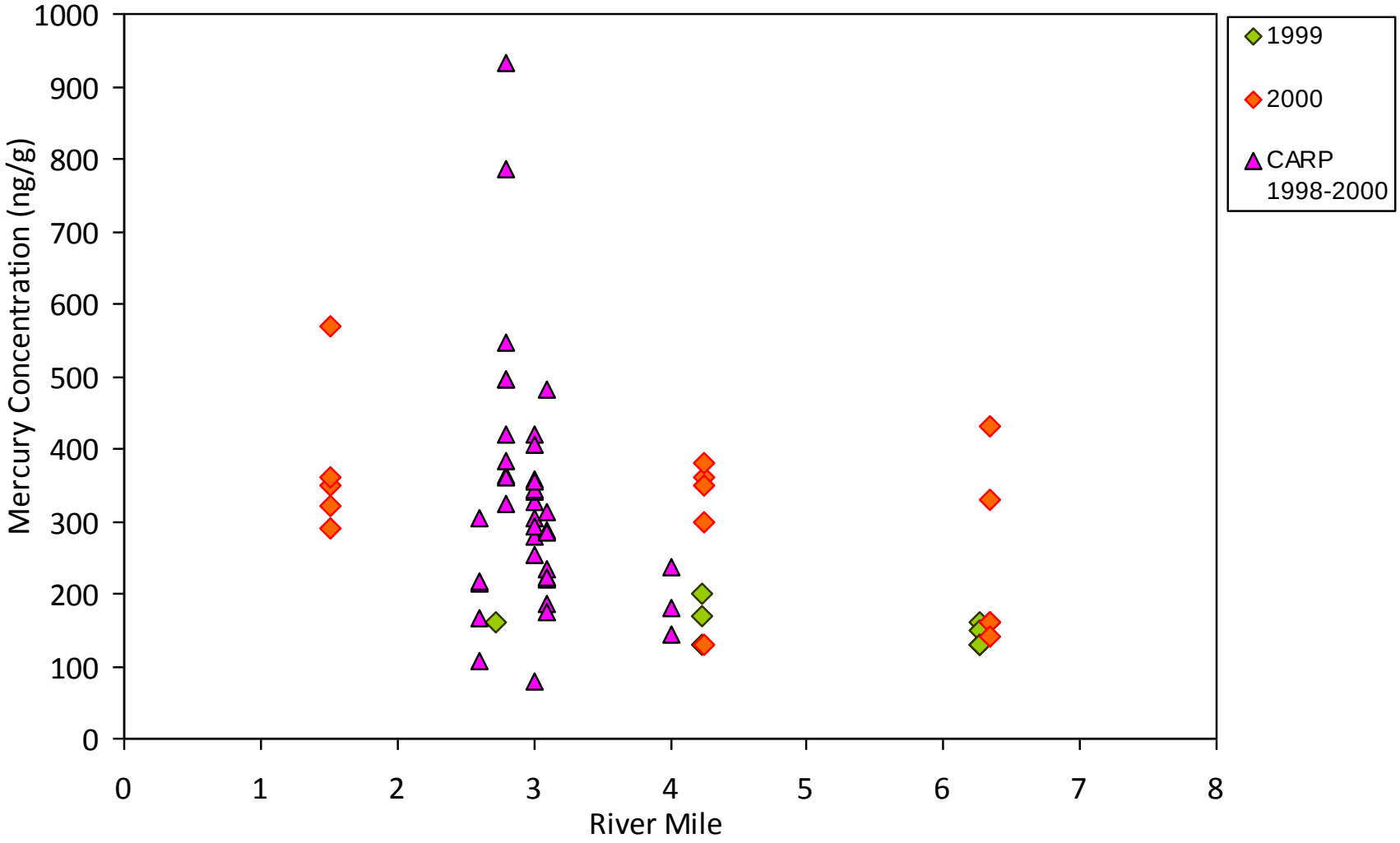
Lower Passaic River Restoration Project

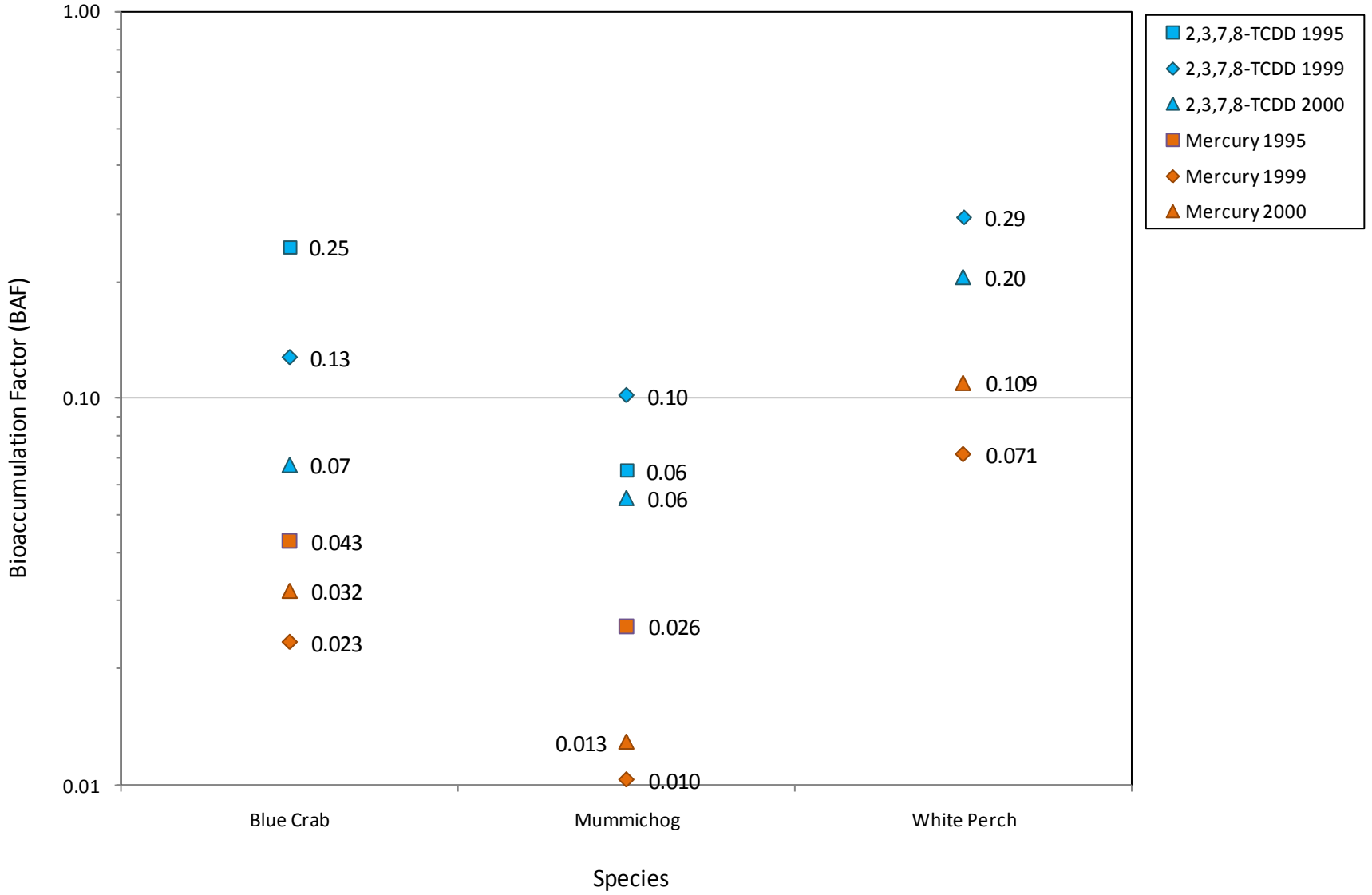


Mercury Concentration in White Perch Tissue vs. River Mile

Lower Passaic River Restoration Project

Figure 22-6

September 2008

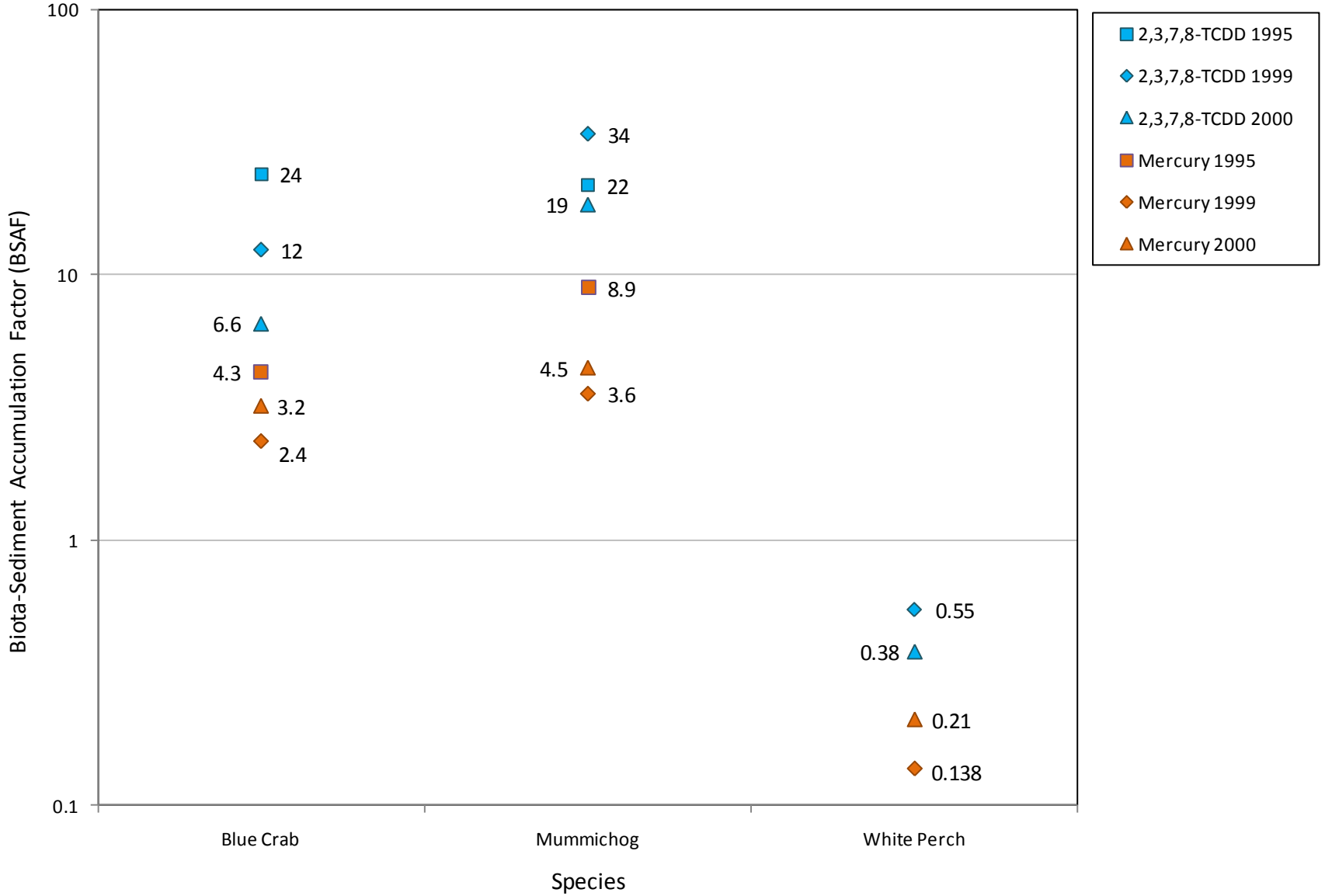


Lower Passaic River Average Bioaccumulation Factors (BAFs) for 3 Species for 2,3,7,8-TCDD and Mercury for the years 1995, 1999 and 2000

Lower Passaic River Restoration Project

Figure 22-7

September 2008



Lower Passaic River Average Biota-Sediment Accumulation Factor (BSAF) values for 3 Species for 2,3,7,8-TCDD and Mercury for the years 1995, 1999 and 2000

Lower Passaic River Restoration Project

Figure 22-8

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